



ERICK RUSSELL
TREASURER

State of Connecticut
Office of the Treasurer

M E M O R A N D U M

TO: Members of the Investment Advisory Council

FROM: Erick Russell, State Treasurer, and Council Secretary

DATE: January 3, 2024

SUBJECT: Investment Advisory Council Meeting – January 10, 2024

Enclosed is the agenda package for the Investment Advisory Council regular meeting on Wednesday, January 10, 2024, starting at 2:30 P.M. The meeting will be held in-person in Conference Rooms G006D and G007E.

The following subjects will be covered at the meeting:

Item 1: Approval of the Minutes of the November 8, 2023, IAC Regular Meeting and Minutes of the November 14, 2023, IAC Audit Committee Special Meeting

Item 2: Opening Comments by the Treasurer

Item 3: Public Markets Asset Class Structure Review: Global Equities

Anastasia Rotheroe, Principal Investment Officer, will present the current Global Equity positioning as well as an outlook for the Asset Class going forward.

Item 4: FX Exposure Hedging Study

Nishant Upadhyay, Principal Investment Officer, and Jorge Portugal, Investment Officer, will present the currency overlay strategy for the Public Markets.

Item 5: Short-Term Investment Fund Overview

Paul Coudert, Interim Principal Investment Officer, will provide a review of the Short-Term Investment Fund (STIF).

Item 6: Presentation of Rebalancing Process

Ted Wright, Chief Investment Officer, and Robert Scully, Investment Officer, will present the Rebalancing Process.

Item 7: Private Asset Classes Pacing Plan Overviews

Mark Evans, Principal Investment Officer and Denise Stake, Principal Investment Officer will provide an overview of the recommended pacing plans for the Private Equity, Private Credit, Real Estate, and Infrastructure/Natural Resource Asset Classes.

Item 8: Other Business

Item 9: Comments by the Chair

Item 10: Executive Session

Executive Session to discuss compensation plan and the potential financial effect on PFM current investment staff salaries.

Item 11: Adjournment

We look forward to reviewing these agenda items with you at the January 10th meeting. Please confirm your attendance with Raymond Tuohey (raymond.tuohey@ct.gov) as soon as possible.

ER/rt

Enclosures.

**DRAFT VERSION – MINUTES OF THE INVESTMENT ADVISORY COUNCIL REGULAR MEETING
WEDNESDAY, NOVEMBER 8, 2023 – SUBJECT TO REVIEW AND APPROVAL
FINAL VERSION OF THESE MINUTES WILL BE POSTED AFTER APPROVAL OF THE INVESTMENT
ADVISORY COUNCIL AT THE NEXT MEETING, WHICH WILL BE HELD ON
WEDNESDAY, JANUARY 10, 2024**

MEETING NO. 526

Members present: D. Ellen Shuman, Chair
Treasurer Russell, Secretary
William Murray
Virtual via Zoom Harry Arora
William Myers
Myra Drucker
Michael LeClair
Patrick Sampson

Members absent: Thomas Fiore, representing Secretary Jeffrey Beckham

Others present: Sarah Sanders, Deputy Treasurer
Doug Delana, General Counsel
Ginny Kim, Assistant General Counsel
Ted Wright, Chief Investment Officer
Mark Evans, Principal Investment Officer
Peter Gajowiak, Principal Investment Officer
Denise Stake, Principal Investment Officer
Nishant Upadhyay, Principal Investment Officer
Anastasia Rotheroe, Principal Investment Officer
Paul Coudert, Interim Principal Investment Officer
Olivia Wall, Senior Investment Officer
Pamela Moody, Investment Officer
Kan Zuo, Investment Officer
Philip Conner, Investment Officer
Carmen Melaragno, Investment Officer
Robert Scully, Investment Officer
Jorge Portugal, Investment Officer
Rosalind Nash, Investment Officer
Jessica Weaver, Corporate Governance Analyst
Raymond Tuohey, Executive Secretary
Mary Mustard, Meketa
Tom Cosmer, Pinebridge Investments
Robyn Kaplan-Cho, CEA
Chloe Kelley, PIMCO

Guests: Public Line

With a quorum present, Chair D. Ellen Shuman called the Investment Advisory Council (“IAC”)

regular meeting to order at 9:01 a.m.

Approval of the Minutes of the September 13, 2023, IAC Meeting

Chair Shuman called for a motion to accept the minutes of the September 13, 2023, IAC Regular Meeting. **Mr. Myers moved to approve the minutes. The motion was seconded by Ms. Drucker. There being no further discussion, the Chair called for a vote to accept the minutes of the meeting, and the motion passed.**

Comments by the Treasurer

Treasurer Russell welcomed the IAC members and shared recent updates at the Office of the Treasurer (OTT). In the Private Investment Portfolio, Treasurer Russell announced his decision to commit \$150 million to Leeds Equity Partners VIII, L.P. and \$25 million to Leeds Co-Investment Sidecar. In the Real Estate Portfolio, the Treasurer announced his decision to commit \$200 million to Blue Owl Real Estate Fund VI, L.P. Lastly, Treasurer Russell provided an overview of the agenda.

Presentation of the PFM Investment Process

Ted Wright, Chief Investment Officer, and PIOs Denise Stake, Mark Evans, Nishant Upadhyay, and Peter Gajowiak, provided a presentation on the PFM Investment Process.

Presentation of the 2023 Fiscal Year Performance Attribution of the Global Equity portfolio

Anastasia Rotheroe, Principal Investment Officer, provided the 2023 Fiscal Year Performance Attribution of the Global Equity portfolio.

PFM Officer Professional Classification Salary Range

Ted Wright, Chief Investment Officer, provided a presentation on the PFM Officer Professional Classification level salary range. He noted that the salary range of \$120,000 - \$210,000, would

allow PFM to attract talent, strengthen recruitment and retention efforts, as well as provide advancement opportunity and cross discipline mobility.

Review of 2023 Proxy Season & 2024 Proxy Season Preview

Jessica Weaver, Corporate Governance Analyst, provided a review of the 2023 proxy season and a preview of the 2024 proxy season.

Presentation and Consideration of a Private Equity Opportunities

Mark Evans, Principal Investment Officer, and Carmen Melaragno, Investment Officer, presented the ICG Strategic Partnership opportunity, consisting of ICG North American Credit Partners Fund III LP and ICG Europe Mid-Market Fund II SCSP, which are Private Credit Fund opportunities, and ICG Europe Fund IX SCSp, a Private Credit Fund opportunity that will be formally presented at a future IAC meeting. Mr. Evans and Mr. Melaragno also presented ICG Global Loan Fund and ICG Global Total Credit Fund, Private Credit Fund opportunities.

Roll Call of Reactions for the Private Equity Opportunities

Messrs. Myra Drucker, William Myers, William Murray, Harry Arora, Michael LeClair, Patrick Sampson, and Chair Shuman provided feedback on the investment opportunities. **There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Ms. Drucker, seconded by Mr. Murray, to waive the 45-day comment period for the ICG Strategic Partnership; Private Credit Fund investment opportunities. The Chair called for a vote, and the motion passed.**

Presentation and Consideration of a Real Estate Opportunity

Denise Stake, Principal Investment Officer, and Philip Conner, Investment Officer, presented Penzance DC Real Estate Fund III LP, a Real Estate Fund opportunity.

Presentation and Consideration of Infrastructure and Natural Resources Opportunities

Denise Stake, Principal Investment Officer, and Olivia Wall, Senior Investment Officer, presented Stonepeak Infrastructure Fund V LP., and Homestead Capital USA Farmland Fund IIV, LP, Infrastructure and Natural Resources Fund opportunities.

Roll Call of Reactions for the Real Estate, Infrastructure and Natural Resources**Opportunities**

Messrs. Myra Drucker, William Myers, William Murray, Tom Fiore, Harry Arora, Michael LeClair and Chair Shuman provided feedback on the investment opportunities. **There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Mr. Sampson, seconded by Mr. Murray, to waive the 45-day comment period for Penzance DC Real Estate Fund III LP, Stonepeak Infrastructure Fund V LP., and Homestead Capital USA Farmland Fund IIV, LP; Real Estate, and Infrastructure and Natural Resources investment opportunities. The Chair called for a vote, and the motion passed.**

Other Business

None.

Comments by the Chair

The Chair made some brief comments regarding the meeting.

Meeting Adjourned

There being no further business, Chair Shuman called for a motion to adjourn the meeting. **Mr. Meyers moved to adjourn the meeting, and the motion was seconded by Mr. Murray. There being no discussion, the motion passed, and the meeting was adjourned at 12:14 p.m.**

DRAFT VERSION –

**MINUTES OF THE INVESTMENT ADVISORY COUNCIL AUDIT COMMITTEE MEETING
TUESDAY, NOVEMBER 14, 2023 – SUBJECT TO REVIEW AND APPROVAL
FINAL VERSION OF THESE MINUTES WILL BE POSTED AFTER APPROVAL OF THE INVESTMENT
ADVISORY COUNCIL AT THE NEXT MEETING, WHICH WILL BE HELD ON
WEDNESDAY, JANUARY 10, 2024**

MEETING NO. 527

Members present: D. Ellen Shuman, Interim Audit Committee Chair, Investment Advisory Council Chair, Ex officio
Myra Drucker
Thomas Fiore, representing Secretary Jeffrey Beckham
Member of Audit Committee

Members absent: Michael LeClair

Others present: William Myers, Investment Advisory Council Member
Ginny Kim, Assistant General Counsel
Peter Gajowiak, Principal Investment Officer
Pamela Moody, Investment Officer
Raymond Tuohey, Executive Secretary

Guests: Matthew Wood, State Auditor
David Tarallo, State Auditor
Public Line

With a quorum present, Interim Chair Shuman called the Investment Advisory Council (“IAC”) Audit Committee meeting to order at 11:01 a.m.

Opening Comments by the Interim Chair

Interim Chair Shuman welcomed the IAC audit committee members to the meeting and gave some brief comments.

Executive Session

Interim Chair Shuman asked for a motion to move into Executive Session. **A motion was made by Myra Drucker, seconded by Thomas Fiore that the Investment Advisory Council Audit Committee enter into Executive Session to discuss the preliminary drafts of the Office of the Treasurer’s annual financial statements for the fiscal year ended June 30, 2023.** Matthew Wood, State Auditor; David Tarallo, State Auditor; William Myers, Investment Advisory Council

DRAFT VERSION –

**MINUTES OF THE INVESTMENT ADVISORY COUNCIL AUDIT COMMITTEE MEETING
TUESDAY, NOVEMBER 14, 2023 – SUBJECT TO REVIEW AND APPROVAL
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WEDNESDAY, JANUARY 10, 2024**

Member, Ginny Kim, Assistant General Counsel, Peter Gajowiak, Principal Investment Officer, and Pam Moody, Investment Officer, were invited to attend the Executive Session.

Interim Chair Shuman reconvened the regular session at 11:51 a.m. **Interim Chair Shuman noted that no substantive votes or actions were taken during the Executive Session.**

Executive Session

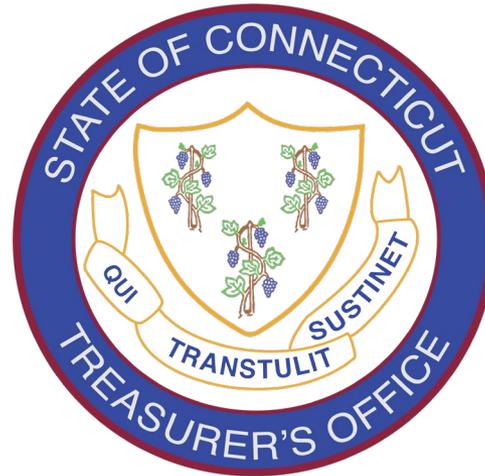
Interim Chair Shuman asked for a motion to move into Executive Session. **A motion was made by Myra Drucker, seconded by Thomas Fiore that the Investment Advisory Council Audit Committee enter into Executive Session to discuss the preliminary drafts of the Office of the Treasurer’s annual financial statements for the fiscal year ended June 30, 2023, with each of the invited groups.** Group 1: Matthew Wood, State Auditor; David Tarallo, State Auditor; William Myers, Investment Advisory Council Member, Ginny Kim, Assistant General Counsel; Group 2: William Myers, Investment Advisory Council Member, Ginny Kim, Assistant General Counsel, Peter Gajowiak, Principal Investment Officer, and Pam Moody, Investment Officer, were invited to attend the Executive Session.

Interim Chair Shuman reconvened the regular session at 12:16 p.m. **Interim Chair Shuman noted that no substantive votes or actions were taken during the Executive Session.**

Meeting Adjourned

There being no further business, Interim Chair Shuman called for a motion to adjourn the meeting. Myra Drucker moved to adjourn the meeting and the motion was seconded by Thomas Fiore. There being no discussion, the meeting was adjourned at 12:17 p.m.

Connecticut Retirement Plans and Trust Funds

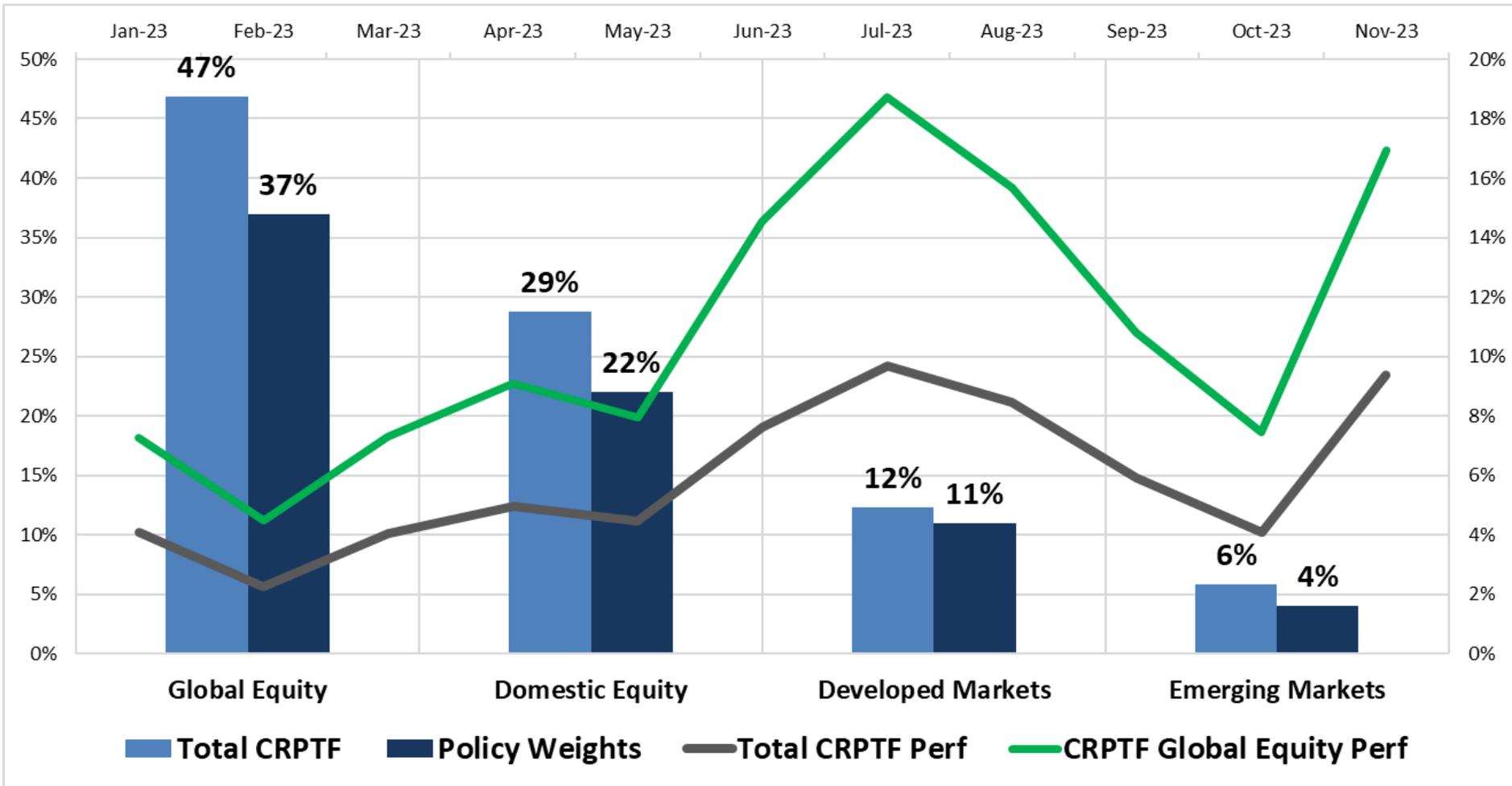


**Global Equity
Strategic Review
January 10, 2024**

Overweight Public Equity

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Active decision to overweight Public Equities added value (As of Nov 30, 2023)



All Regions of Public Equity Outperforming

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As of Nov 30, 2023



State of Connecticut Retirement Plans and Trust Funds

	Market Value (\$M)	% of Portfolio	QTD	YTD	1 Yr	3 Yr	5 Yr	10 Yr
Global Equity	\$ 24,211	100.0%	5.5%	16.9%	12.5%	5.6%	9.4%	8.0%
Global Equity Benchmark			5.6%	15.5%	11.1%	5.4%	8.9%	7.5%
Domestic Equity	\$ 14,841	61.3%	6.1%	19.8%	12.9%	8.4%	11.8%	11.2%
Domestic Equity Benchmark			6.4%	19.4%	12.3%	8.1%	11.7%	11.2%
Developed Markets International	\$ 6,369	26.3%	5.0%	13.9%	14.0%	4.7%	6.7%	5.5%
Developed Markets Benchmark			4.8%	11.8%	11.3%	3.0%	5.8%	5.1%
MSCI EAFE IMI Net USD			4.7%	11.3%	11.5%	3.1%	5.6%	3.9%
Emerging Markets International	\$ 3,001	12.4%	3.9%	9.8%	8.4%	-2.5%	5.1%	3.2%
Emerging Markets Benchmark			3.9%	7.4%	5.9%	-2.7%	3.1%	2.5%

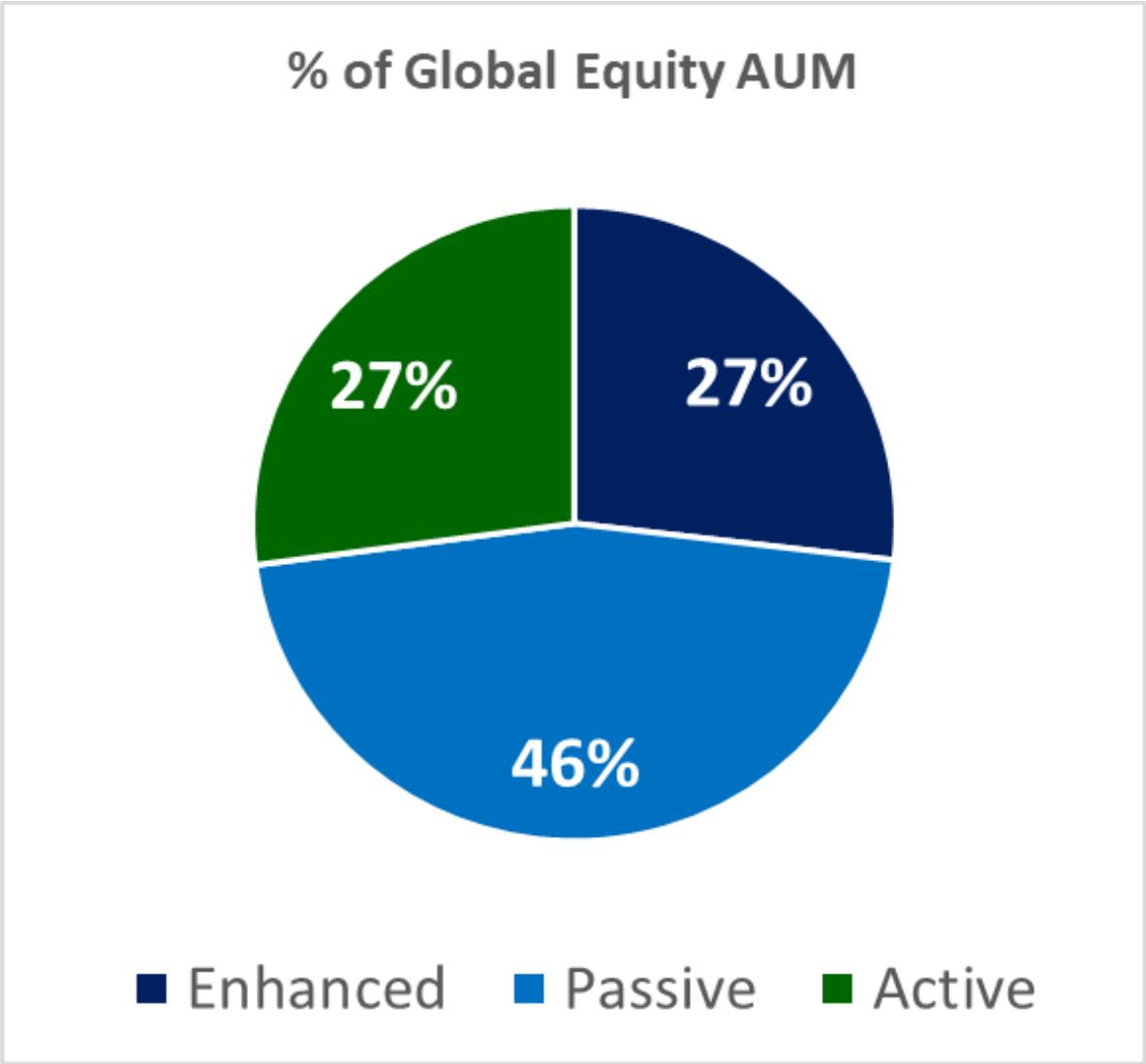
*Source: Meketa



Public Equity primarily invested in low fee products

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As of Nov 30, 2023

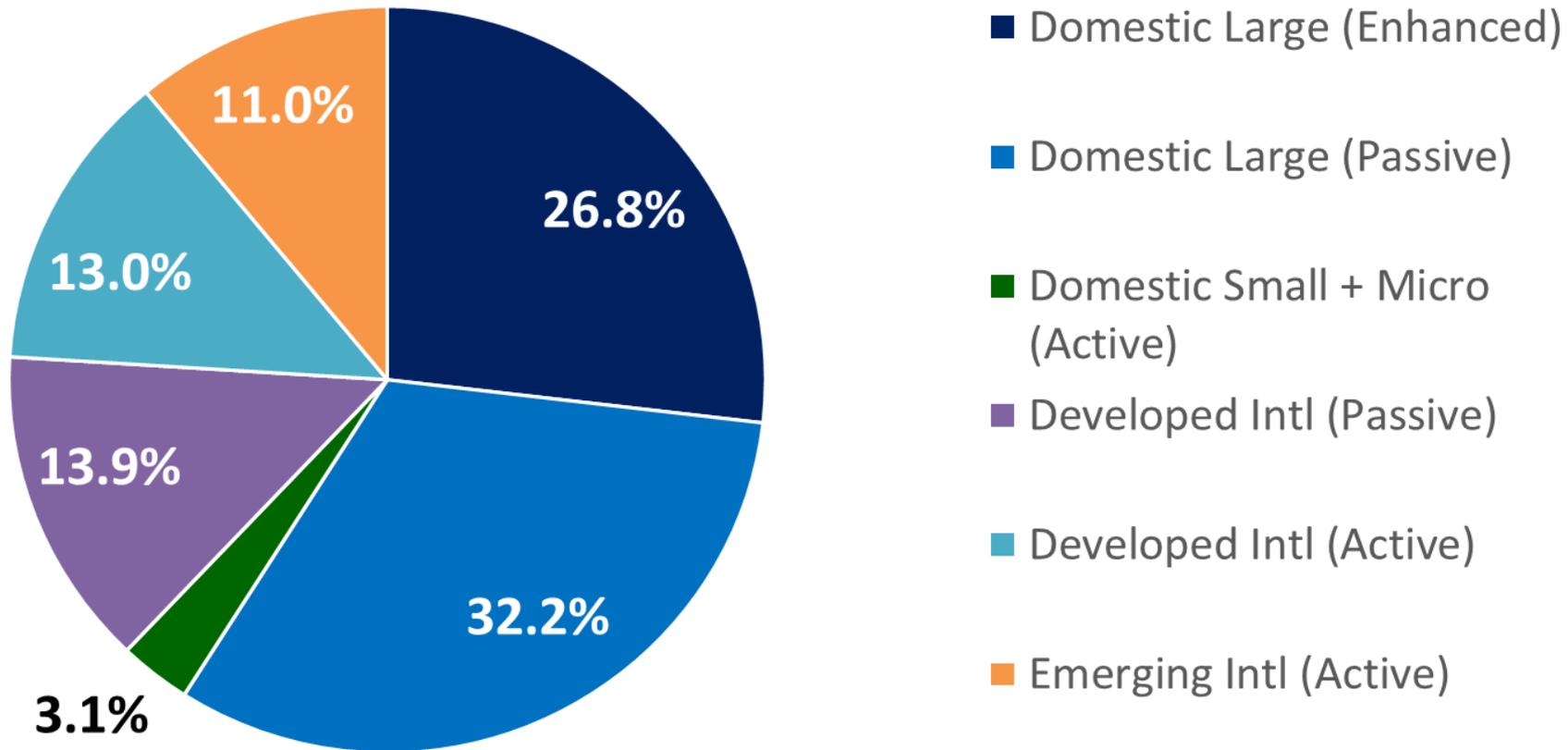


Public Equity Composite by Strategy

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As of Nov 30, 2023

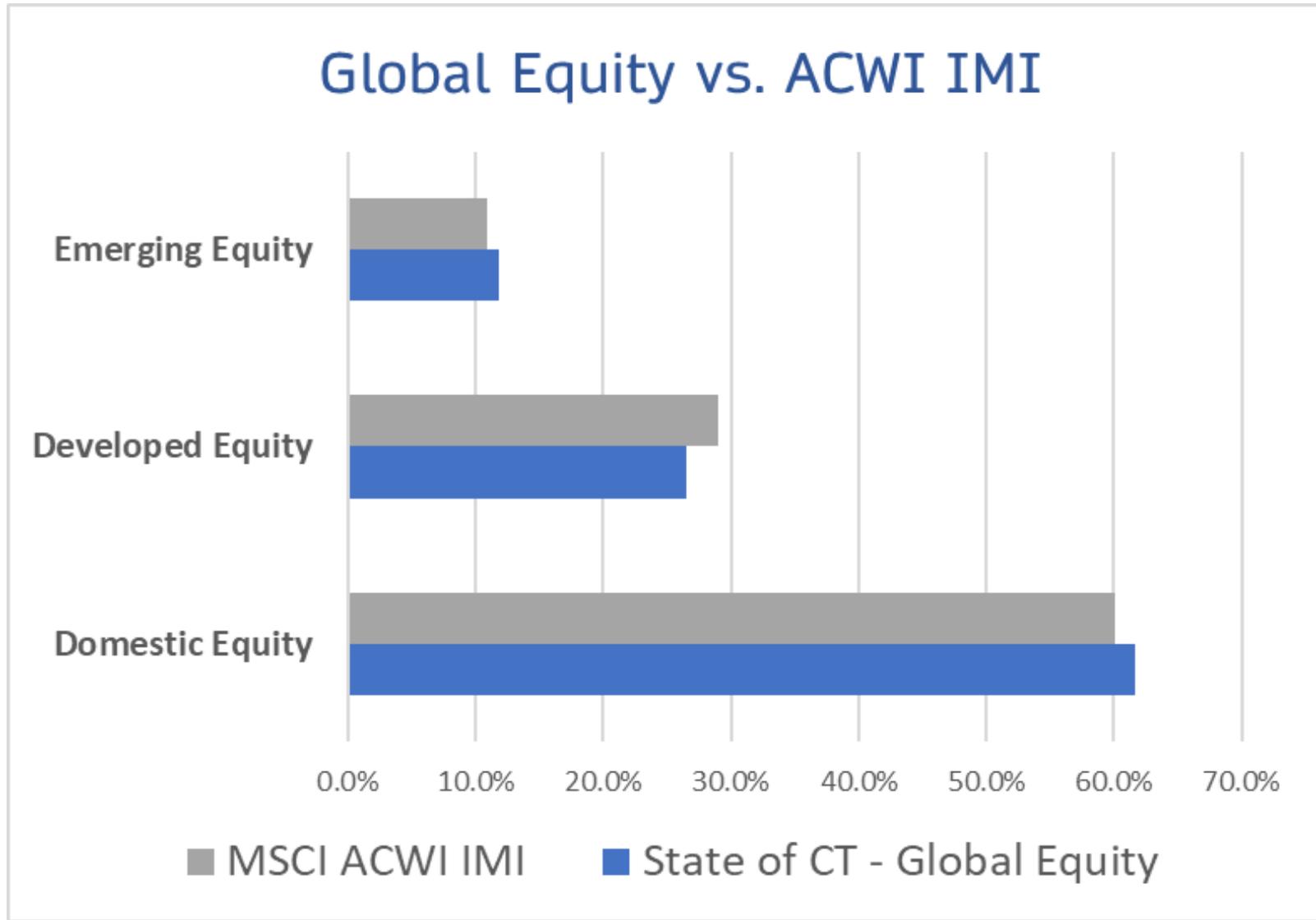
% of Global Equity AUM



Public Equity is positioned in-line with MSCI ACWI IMI

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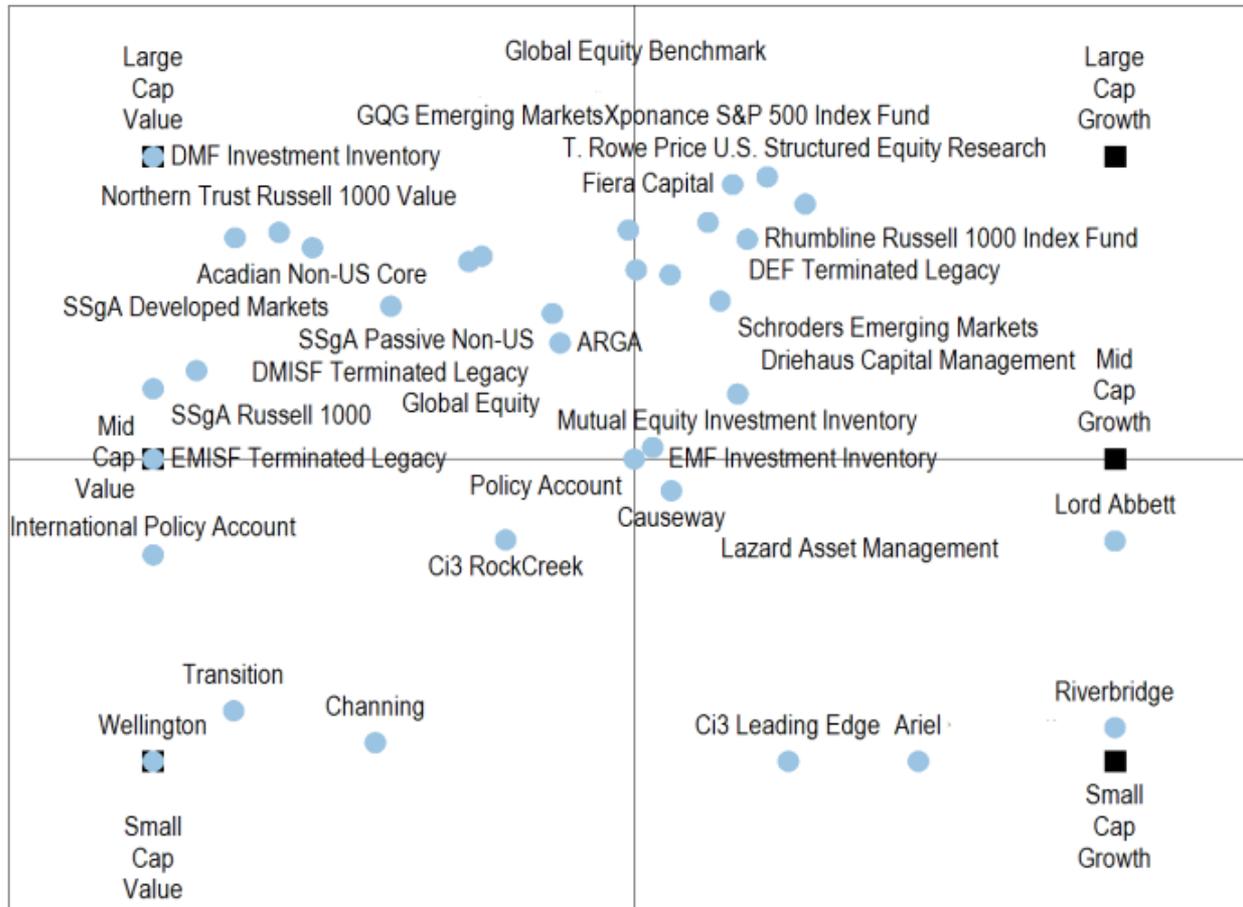
As of Nov 30, 2023



Meketa Manager Style Analysis

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Global Equity 1 Year Ending November 30, 2023



*Source: Meketa



Performance/ Positioning

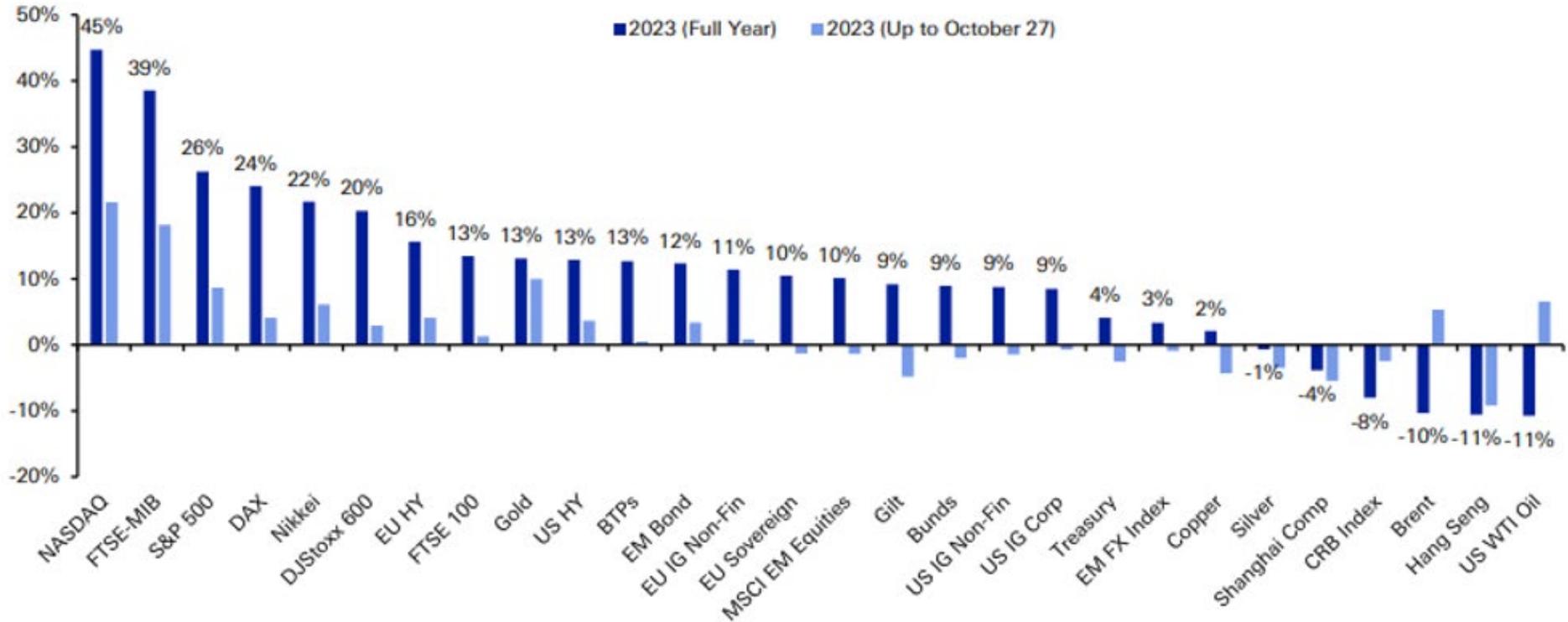
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- Conservative, prudent positioning; in-line with MSCI All Country World Index (ACWI) benchmark; low tracking-error, no sign of “style drift”
- Above benchmark performance, YTD for 16 of 18 managers; outperforming in 1Y,3Y,5Y,10Y periods.
- Optimize portfolio, consolidate the number of managers, lowering fees with “best-in-class” managers



2023 Asset-Class Performance

Figure 1: Returns for various financial assets over 2023 (USD terms)



Source : Bloomberg Finance LP, Deutsche Bank

Note: Equities, credit and bonds shown on total return basis, FX and commodities shown on spot return basis



Historical Asset-Class Performance

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	2 Mos - End Dec 23	2023	2022	2021	2020	2019	2018	2017
Dow Jones Industrial	14.5	16.2	-6.9	20.9	9.7	25.3	-3.5	28.1
S&P 500	14.1	26.3	-18.1	28.7	18.3	31.5	-4.4	21.8
Russell 3000	15.1	25.9	-19.2	25.6	20.8	31.0	-5.2	21.1
Russell 1000	14.7	26.5	-19.1	26.4	20.9	31.4	-4.8	21.7
Russell 1000 Growth	15.8	42.7	-29.1	27.6	38.4	36.4	-1.5	30.2
Russell 1000 Value	13.5	11.4	-7.6	25.1	2.8	26.5	-8.3	13.6
Russell Mid-Cap	18.7	17.2	-17.3	22.6	17.0	30.5	-9.1	18.5
S&P Mid-Cap	18.0	16.4	-13.1	24.7	13.6	26.2	-11.1	16.2
Nasdaq Composite	17.1	44.7	-32.5	22.2	44.9	36.7	-2.8	29.7
Russell 2000	22.4	16.9	-20.5	14.8	19.9	25.5	-11.0	14.6
MSCI ACWI ex. USA	14.5	16.2	-15.5	8.3	11.2	22.2	-13.8	27.8
MSCI EAFE	15.1	18.9	-13.9	11.9	8.4	22.8	-13.3	25.7
MSCI Emerging Markets	12.2	10.1	-19.8	-2.3	18.7	18.8	-14.3	37.8
BBG Barclays Govt/Credit	8.2	5.7	-13.6	-1.7	8.9	9.7	-0.4	4.0
BBG Barclays Agg	8.5	5.5	-13.0	-1.5	7.5	8.7	0.0	3.5
ML 3-Month T-Bills	0.5	4.5	1.5	0.1	0.7	2.3	1.9	0.9

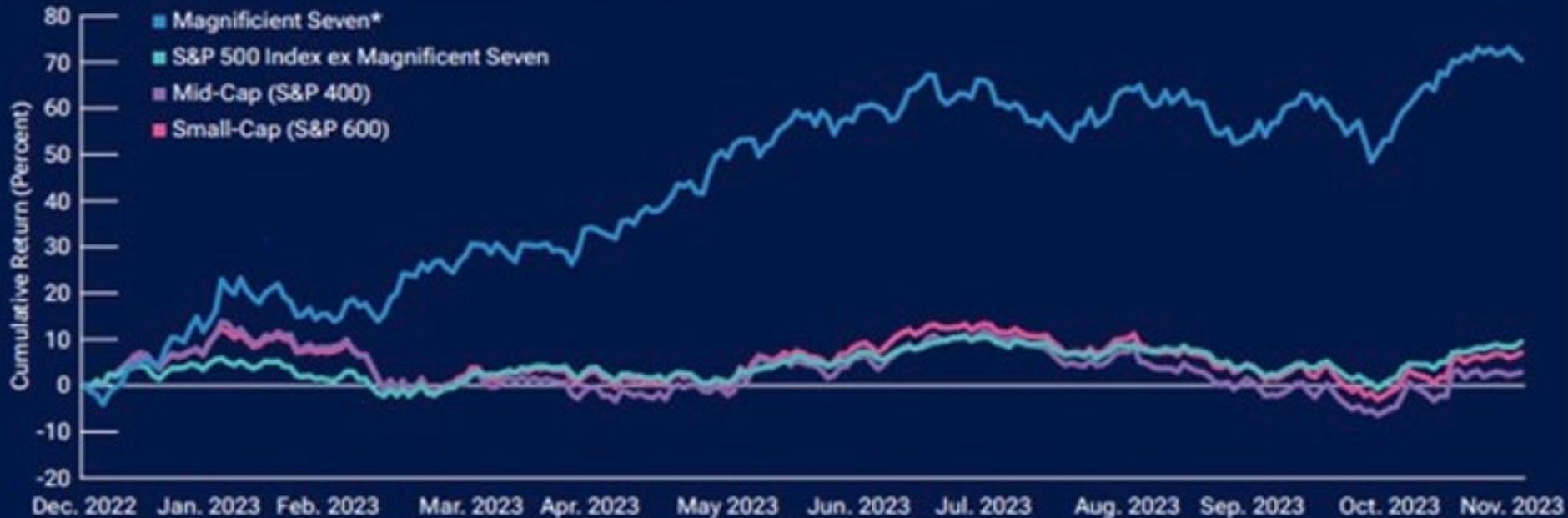
*Source: Bloomberg, Dow Jones, S&P, FTSE/ Russell, WSJ, Barclays and MSCI



Narrow Breadth in 2023 US Equity Performance

U.S. equity performance has been top-heavy, but that could change in 2024

(Fig. 6) Cumulative returns through the first 10 months of 2023.



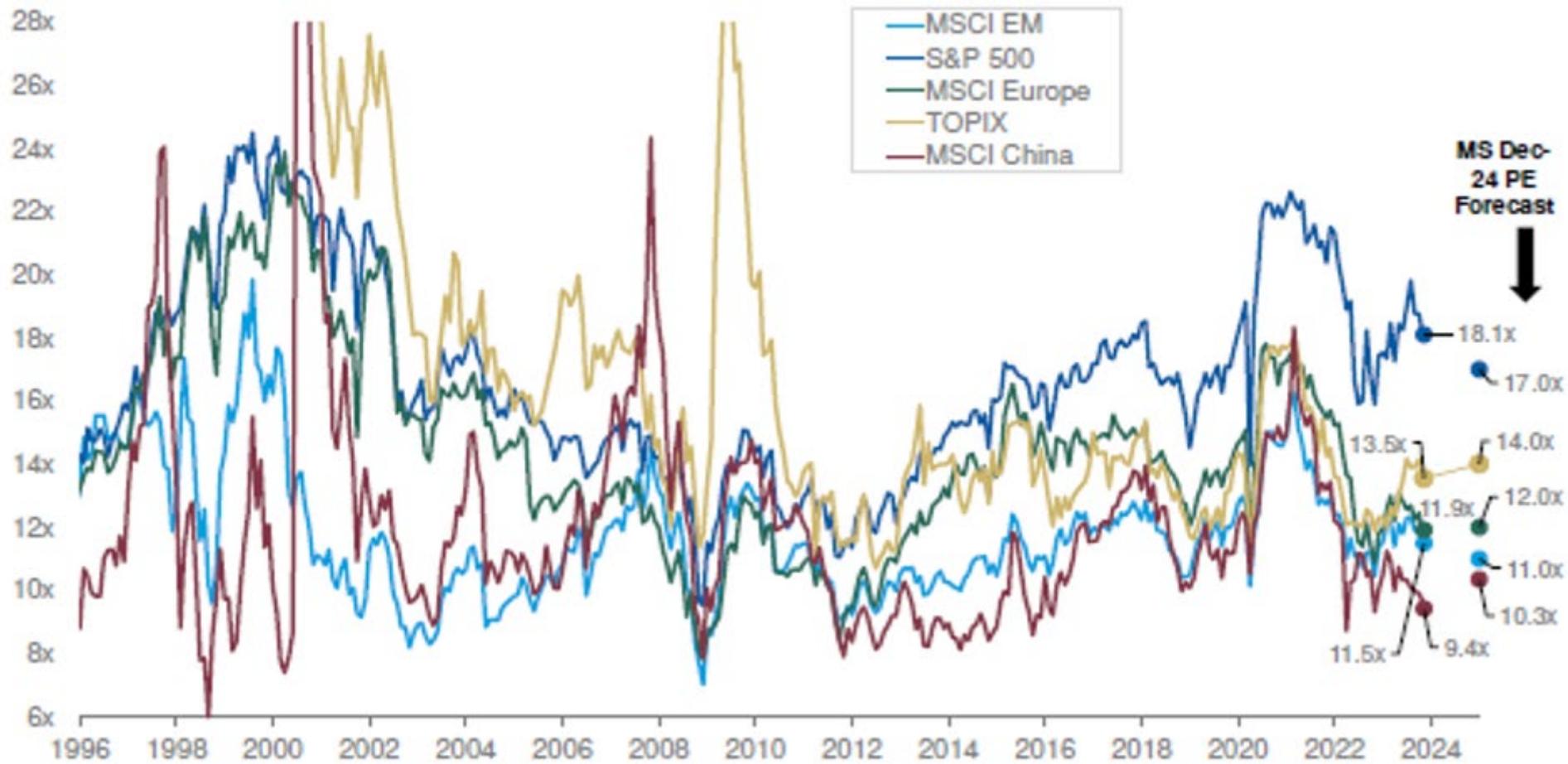
As of November 30, 2023.

* The Magnificent 7 are Apple, Alphabet, Amazon, Meta, Microsoft, NVIDIA, and Tesla. Performance results shown are capitalization-weighted averages.

U.S. Market Valuations are relatively expensive

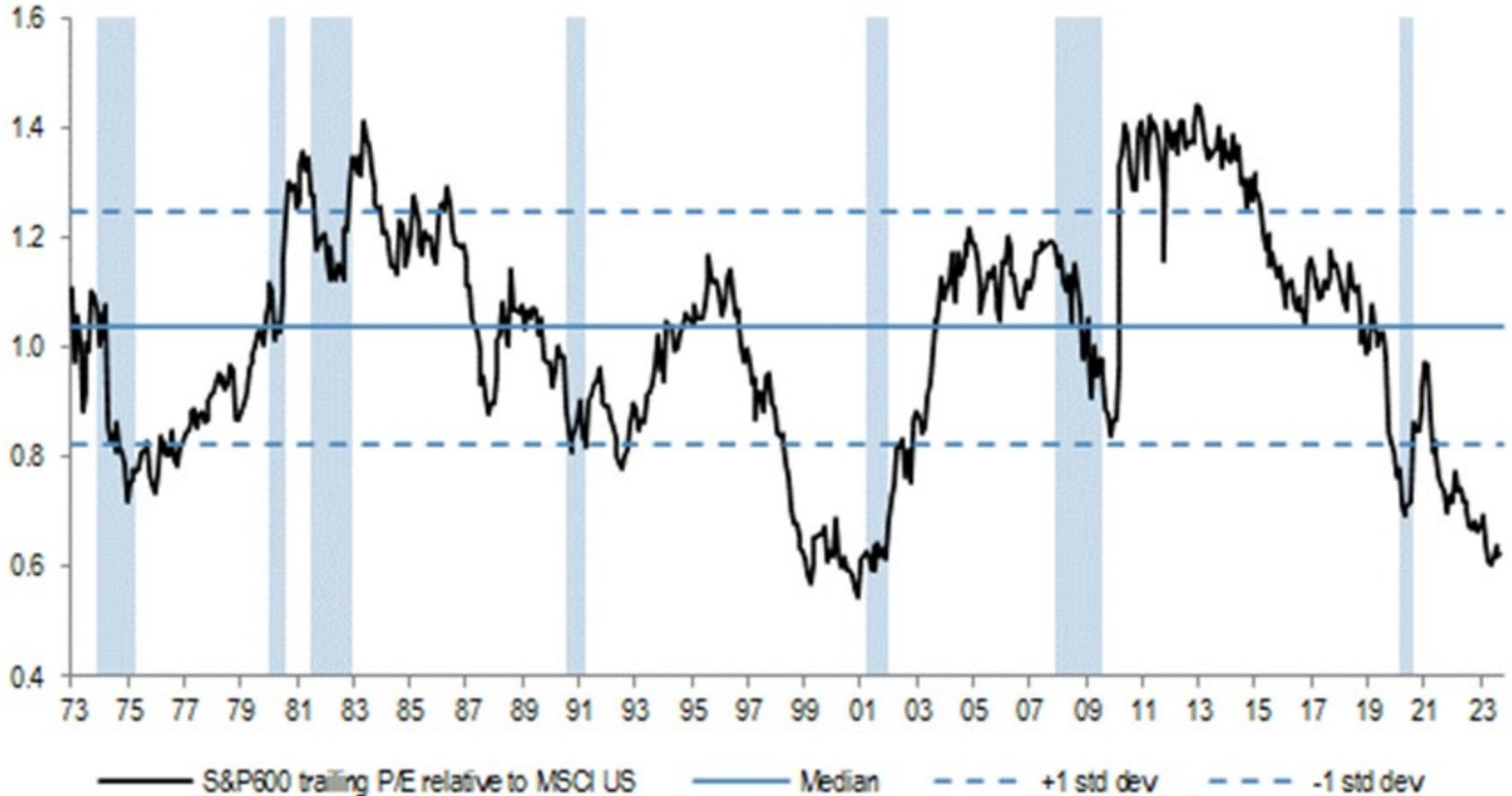
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2024 12-month forward P/E target



Small Cap is cheap relative to Large Cap in the U.S.

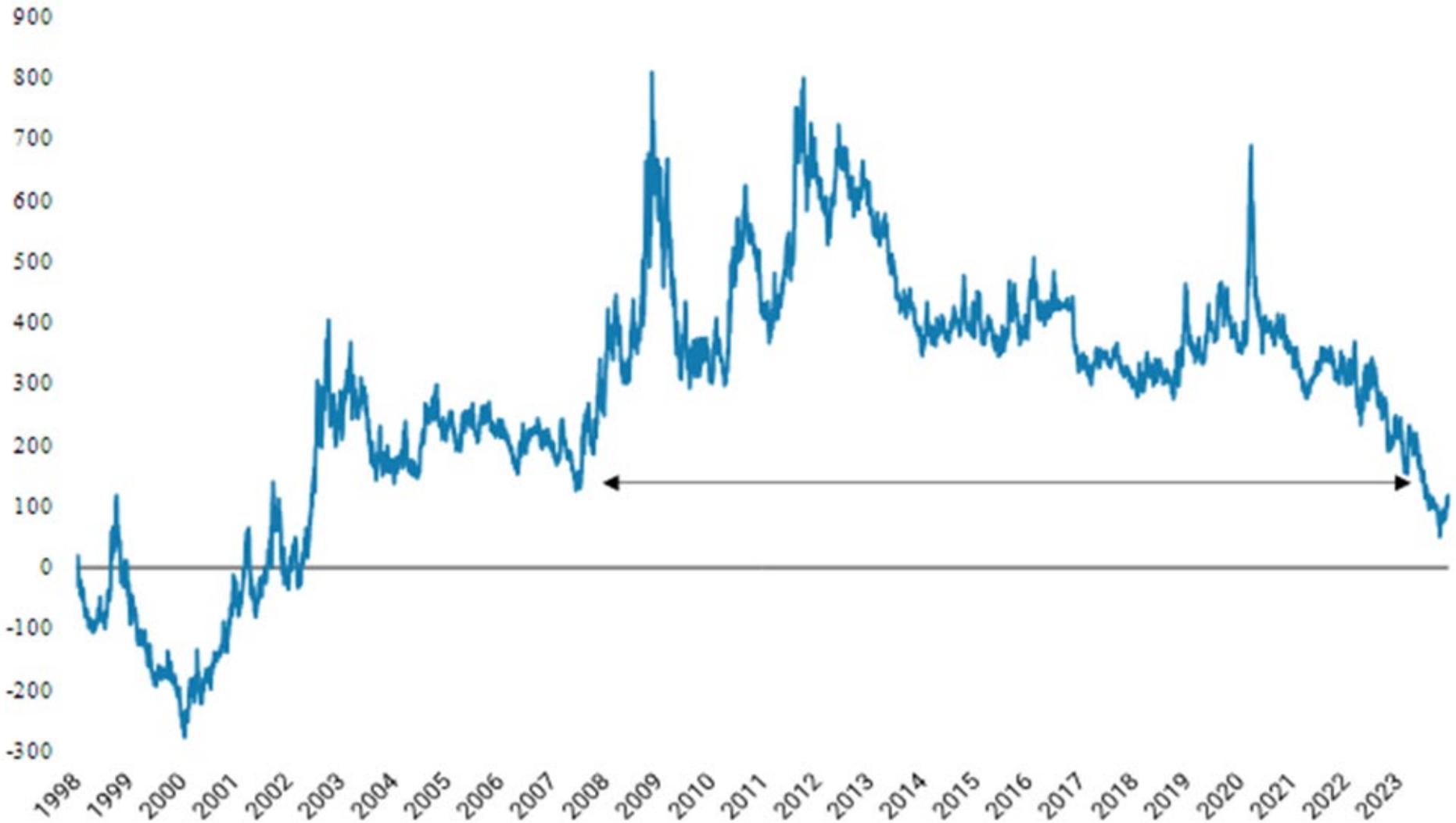
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Domestic Equity-Risk Premium

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— S&P 500 Equity Risk Premium (Bps)



Efficiency/ Opportunity Framework

		US large cap	US Large Growth	US Large Value	Global	EAFE	US Small Cap	Europe	Japan Core	Emerging Mkts	ACWIxUS	China	Europe Small Cap	EM Small Cap	Japan Small Cap
Diversity	Benchmark concentration	Highly efficient	Highly efficient	Moderate efficiency	Inefficient	Inefficient	Inefficient	Moderate efficiency	Inefficient	Moderate efficiency	Inefficient	Highly efficient	Inefficient	Inefficient	Inefficient
Consensus	Estimate dispersion	Highly efficient	Highly efficient	Highly efficient	Inefficient	Inefficient	Moderate efficiency	Inefficient	Inefficient	Inefficient	Inefficient	Inefficient	Inefficient	Inefficient	Inefficient
	Event surprise	Highly efficient	Highly efficient	Highly efficient	Moderate efficiency	Moderate efficiency	Moderate efficiency	Moderate efficiency	Inefficient	Inefficient	Moderate efficiency	Inefficient	Inefficient	Inefficient	Inefficient
Idiosyncrasy	Stock specific risk	Moderate efficiency	Moderate efficiency	Moderate efficiency	Inefficient	Moderate efficiency	Inefficient	Highly efficient	Inefficient	Inefficient	Inefficient	Inefficient	Inefficient	Inefficient	Inefficient
	Big winner (%) ¹	Highly efficient	Inefficient	Highly efficient	Moderate efficiency	Moderate efficiency	Inefficient	Highly efficient	Highly efficient	Inefficient	Moderate efficiency	Inefficient	Inefficient	Inefficient	Moderate efficiency
Accuracy	Forecast error	Highly efficient	Highly efficient	Highly efficient	Moderate efficiency	Moderate efficiency	Inefficient	Highly efficient	Inefficient	Inefficient	Moderate efficiency	Inefficient	Inefficient	Inefficient	Inefficient
	Median # of analysts	Highly efficient	Highly efficient	Moderate efficiency	Moderate efficiency	Moderate efficiency	Inefficient	Highly efficient	Inefficient	Inefficient	Moderate efficiency	Highly efficient	Inefficient	Inefficient	Inefficient
Substitution	ETF tracking risk	Highly efficient	Highly efficient	Highly efficient	Moderate efficiency	Moderate efficiency	Highly efficient	Moderate efficiency	Inefficient	Inefficient	Moderate efficiency	Inefficient	Inefficient	Inefficient	Inefficient
	ETF cost	Highly efficient	Highly efficient	Highly efficient	Inefficient	Moderate efficiency	Highly efficient	Inefficient	Inefficient	Inefficient	Moderate efficiency	Inefficient	Inefficient	Inefficient	Inefficient

Data suggests

■ Highly efficient ■ Moderate efficiency ■ Inefficient

		US large cap	US Large Growth	US Large Value	Global	EAFE	US Small Cap	Europe	Japan Core	Emerging Mkts	ACWIxUS	China	Europe Small Cap	EM Small Cap	Japan Small Cap
10-year results	Median alpha	-0.57	-0.95	0.46	0.58	0.57	0.75	1.19	1.31	0.50	1.54	1.07	1.24	2.49	3.87
	Top quartile alpha	0.85	0.75	1.77	2.37	1.95	3.37	2.89	3.73	1.89	3.26	3.79	3.05	4.57	6.95
	%Time > 60% Outperforming	0	1	48	51	61	49	85	86	48	78	57	75	89	98



Annualized Information Ratio

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1 Year Ending Nov 30, 2023



State of Connecticut Retirement Plans and Trust Funds

Global Equity | As of November 30, 2023

	Ann. Return	Ann. Standard Dev	Ann. Alpha	BETA	Info Ratio	Tracking Error	Sharpe Ratio
Global Equity	12.53%	15.93%	1.75%	0.97	1.76	0.82%	0.48
Global Equity Benchmark	11.09%	16.36%		1.00			0.38
Domestic Equity	12.88%	16.54%	0.93%	0.97	0.81	0.74%	0.48
Domestic Equity Benchmark	12.27%	16.97%		1.00			0.43
Developed Markets International	13.99%	16.41%	2.98%	0.98	2.56	1.05%	0.55
Developed Markets Benchmark	11.28%	16.79%		1.00			0.38
Emerging Markets International	8.42%	16.31%	2.94%	0.92	0.78	3.17%	0.22
Emerging Markets Benchmark	5.94%	17.39%		1.00			0.06

*Source: Meketa



Outlook- Public Equities

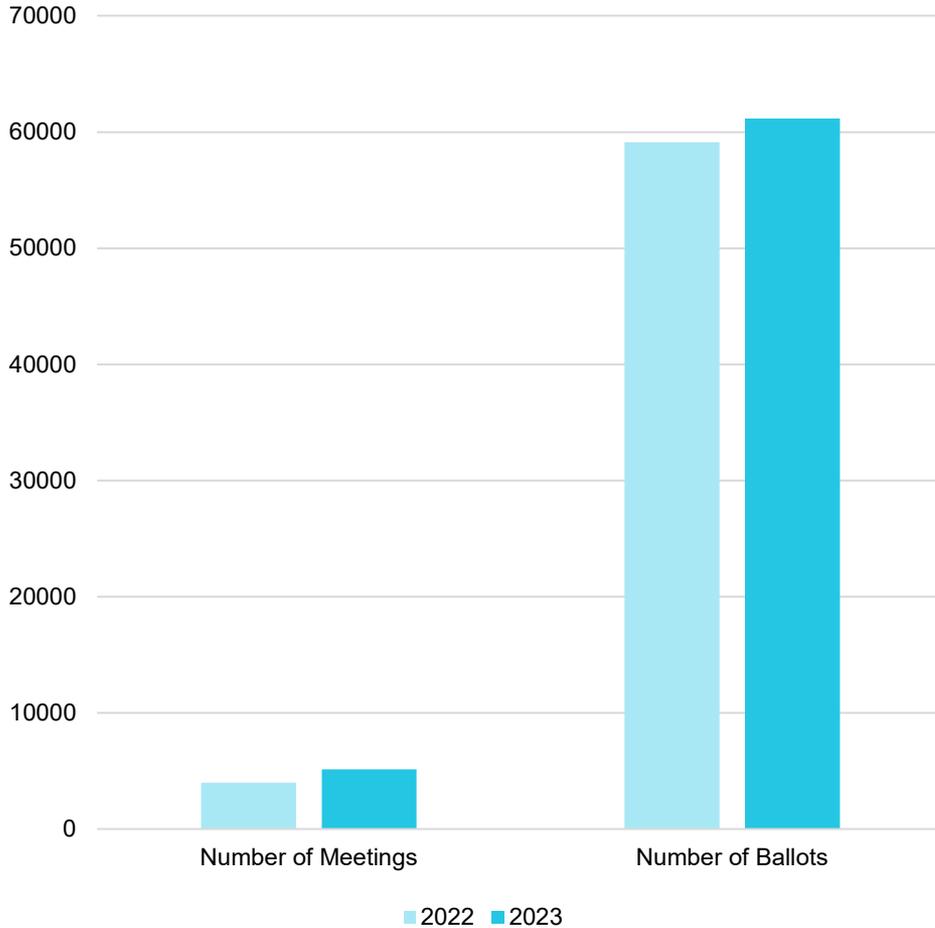
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- Macro-economic topics: global election cycle, interest rates, lower global GDP estimates
- Public Equity valuations are above historical levels: Neutral
- Small-cap equity valuations are below historical levels: Opportunity

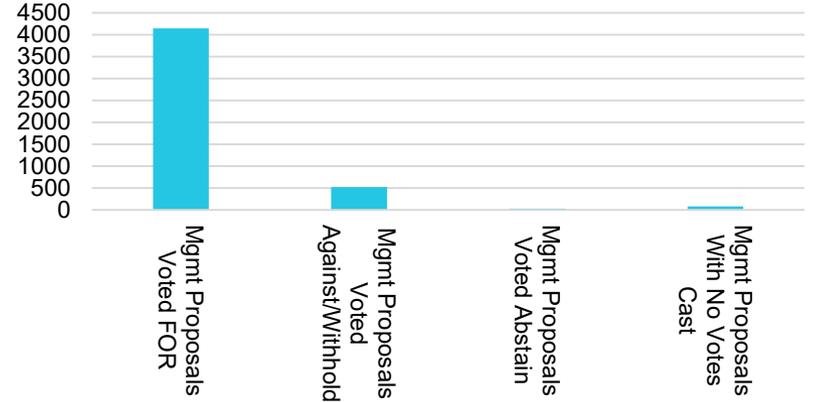


Proxy Voting Summary 2023

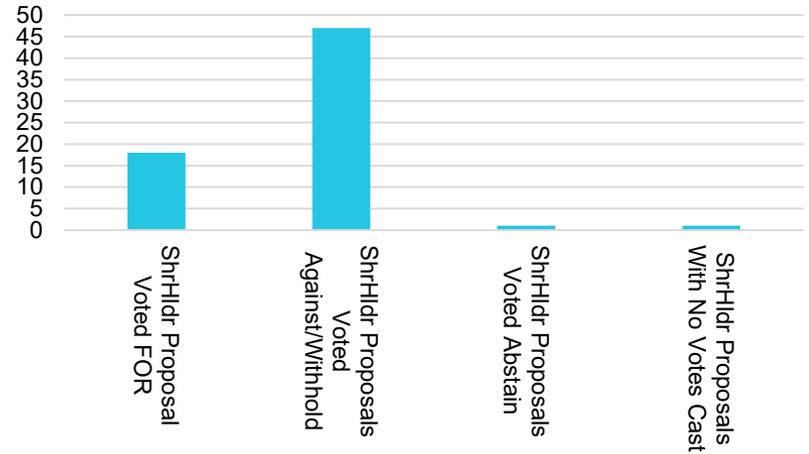
Proxy Votes Year Over Year



Management Proposal Votes- Q4



Shareholder Proposal Votes- Q4



MSCI Climate Analysis - Public Equities

MSCI Implied Temperature Rise

Implied Temperature Rise (ITR) provides a portfolio level number in degrees of Celsius demonstrating how aligned the companies in the portfolio are to global temperature goals.

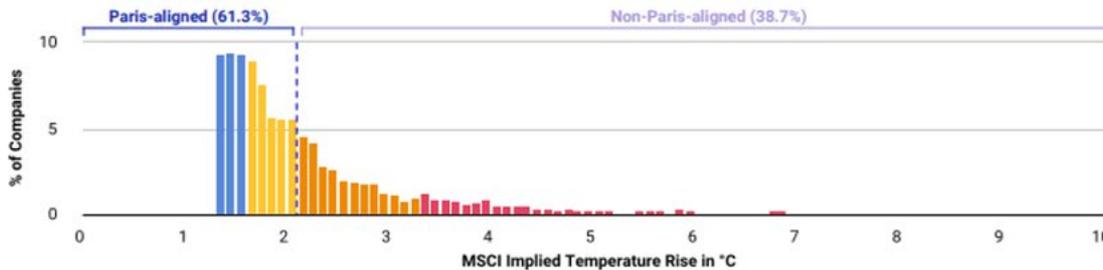
The Implied Temperature Rise (ITR) metric provides an indication of how well public companies align with global temperature goals. Expressed in degrees Celsius, it is an intuitive, forward-looking metric that shows how a company aligns with the ambitions of the Paris Agreement – which is to keep a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C.



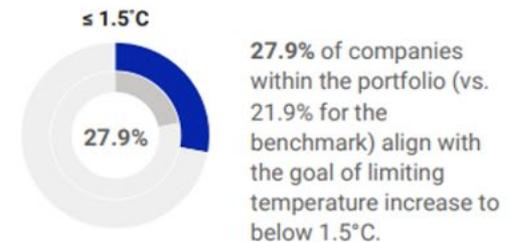
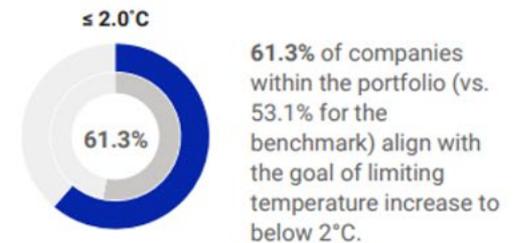
The portfolio-level Implied Temperature Rise uses an aggregated budget approach: it compares the sum of “owned” projected GHG emissions against the sum of “owned” carbon budgets for the underlying fund holdings. The portfolio’s total estimated carbon budget over-/undershoot is then converted to a degree of temperature rise (°C) using science based TCRE (Transient Climate Response to Cumulative Emissions). The allocation base used to define ownership is Enterprise Value including Cash (EVIC) in order to enable the analysis of equity and corporate bond portfolios.

Portfolio MSCI Implied Temperature Rise Distribution

The issuers in the portfolio are distributed according to their Implied Temperature Rise showing the number who are aligned with the Paris Agreement and the more ambitious 1.5°C temperature goal.



Implied Temperature Rise Categories		% of companies in category
1.5°C Aligned	<= 1.5°C	27.9%
2°C Aligned	> 1.5°C - 2 °C	33.4%
Misaligned	>2.0 - 3.2°C	25.8%
Strongly Misaligned	>3.2°C	12.9%



■ Portfolio ■ Benchmark

2024 Initiatives

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- Manager search for active small-cap and developed equity

- ESG: enhanced proxy voting, increased engagement

- Portfolio management tools: aid in decision-making process, utilize more timely data, optimize risk assessment, monitor investment managers, increase efficiency



Historical Asset-Class Correlation

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Correlation Matrix 1 Year Ending November 30, 2023

	<i>Domestic Equity Fund</i>	<i>Rhumbline Russell 1000 Index Fund</i>	<i>T. Rowe Price U.S. Structured Equity Research</i>	<i>Xponance S&P 500 Index Fund</i>	<i>Northern Trust Russell 1000 Value</i>	<i>Lord Abbett</i>	<i>Riverbridge</i>	<i>Wellington</i>	<i>Ariel</i>	<i>Channing</i>
Domestic Equity Fund	1.00	--	--	--	--	--	--	--	--	--
Rhumbline Russell 1000 Index Fund	1.00	1.00	--	--	--	--	--	--	--	--
T. Rowe Price U.S. Structured Equity Research	1.00	1.00	1.00	--	--	--	--	--	--	--
Xponance S&P 500 Index Fund	1.00	1.00	1.00	1.00	--	--	--	--	--	--
Northern Trust Russell 1000 Value	0.94	0.93	0.91	0.92	1.00	--	--	--	--	--
Lord Abbett	0.92	0.92	0.90	0.90	0.83	1.00	--	--	--	--
Riverbridge	0.94	0.93	0.91	0.92	0.93	0.95	1.00	--	--	--
Wellington	0.79	0.78	0.75	0.75	0.85	0.83	0.90	1.00	--	--
Ariel	0.89	0.88	0.86	0.86	0.94	0.89	0.98	0.94	1.00	--
Channing	0.86	0.84	0.82	0.82	0.87	0.83	0.93	0.95	0.95	1.00

*Source: Meketa



Appendix

Manager Active Return

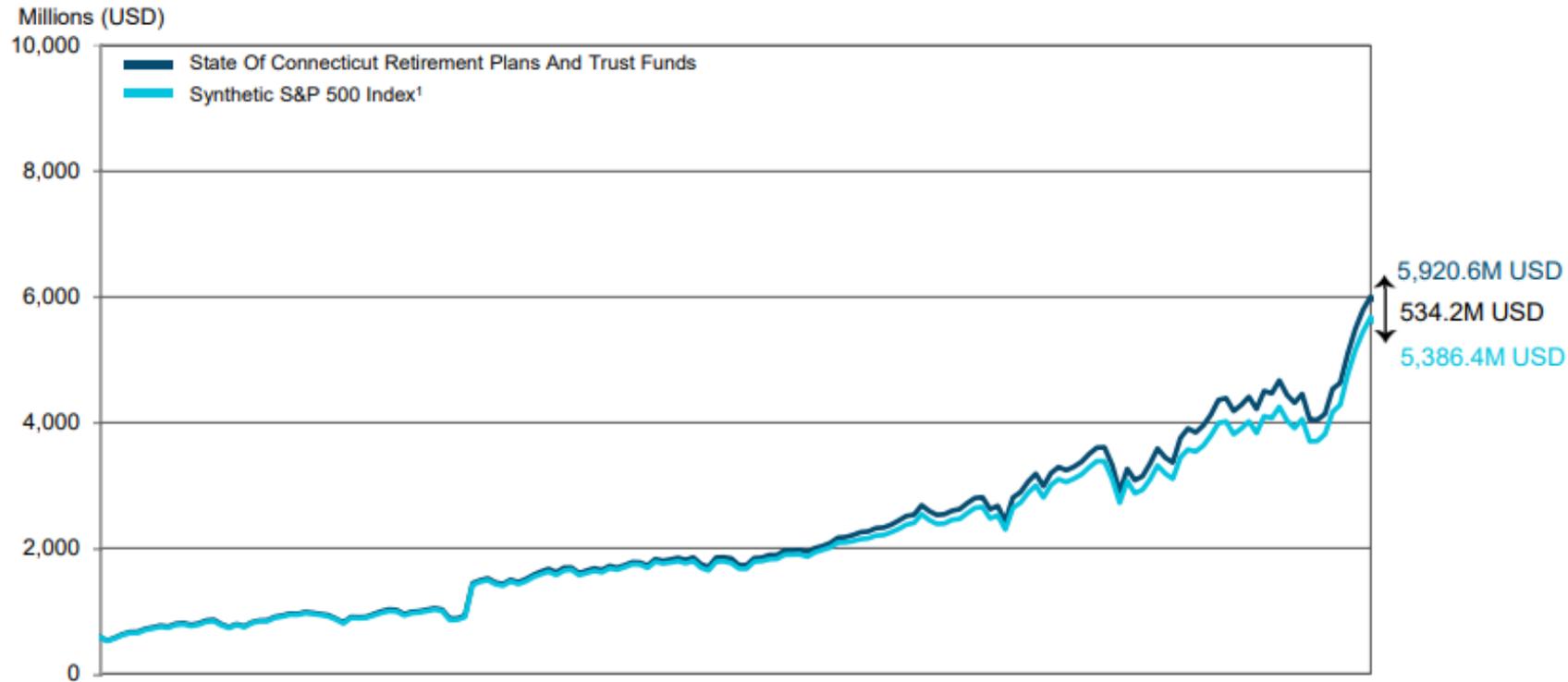
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Year-To-Date

Name	Active / Passive	Benchmark	YTD	
			End Value Total Value (\$M)	Active Cumulative Return
TOTAL ADVISOR		Policy Benchmark	\$ 51,649	-1.9%
GLOBAL EQUITY		MSCI ACWI IMI	\$ 24,211	1.4%
Domestic Equity		MSCI USA IMI	\$ 14,841	0.4%
T ROWE PRICE ASSOC	Enhanced	S&P 500	\$ 6,343	3.5%
RHUMBLINE	Passive	Russell 1000	\$ 5,196	0.0%
XPONANCE	Passive	S&P 500	\$ 1,496	0.0%
DEF NTRS R1000 VALUE	Passive	Russell 1000 Value	\$ 910	0.0%
CHANNING CAP	Active	Russell 2000 Value	\$ 198	5.6%
ARIEL	Active	Russell 2000 Value	\$ 194	1.5%
RIVERBRIDGE DEF	Active	Russell 2000 Growth	\$ 134	4.9%
LORD ABBETT DEF	Active	Russell 2000 Growth	\$ 114	-7.3%
WELLINGTON DEF	Active	Russell Microcap	\$ 87	7.1%
Developed Markets International		MSCI EAFE + Canada	\$ 6,369	2.1%
SSGA Passive EAFE	Passive	MSCI EAFE IMI	\$ 2,988	0.3%
CAUSEWAY	Active	MSCI EAFE	\$ 1,371	10.5%
FIERA CAPITAL	Active	MSCI EAFE	\$ 905	2.5%
ACADIAN	Active	MSCI EAFE	\$ 799	-4.9%
SSGA Passive EAFE Value	Passive	MSCI EAFE Value IMI	\$ 294	0.5%
Emerging Markets International		MSCI Emerging Markets IMI	\$ 3,001	2.4%
ARGA INVEST	Active	MSCI Emerging Markets Value	\$ 722	1.8%
SCHRO INVEST	Active	MSCI Emerging Markets	\$ 693	0.0%
GQG PARTNERS	Active	MSCI Emerging Markets Growth	\$ 599	14.1%
DRIEHAUS CAP	Active	MSCI Emerging Markets Growth	\$ 586	4.7%

HISTORICAL ACCOUNT MARKET VALUES: STATE OF CONNECTICUT RETIREMENT PLANS AND TRUST FUNDS VS. SYNTHETIC S&P 500 INDEX

Since Account Inception 22 January 2009 Through 30 September 2023

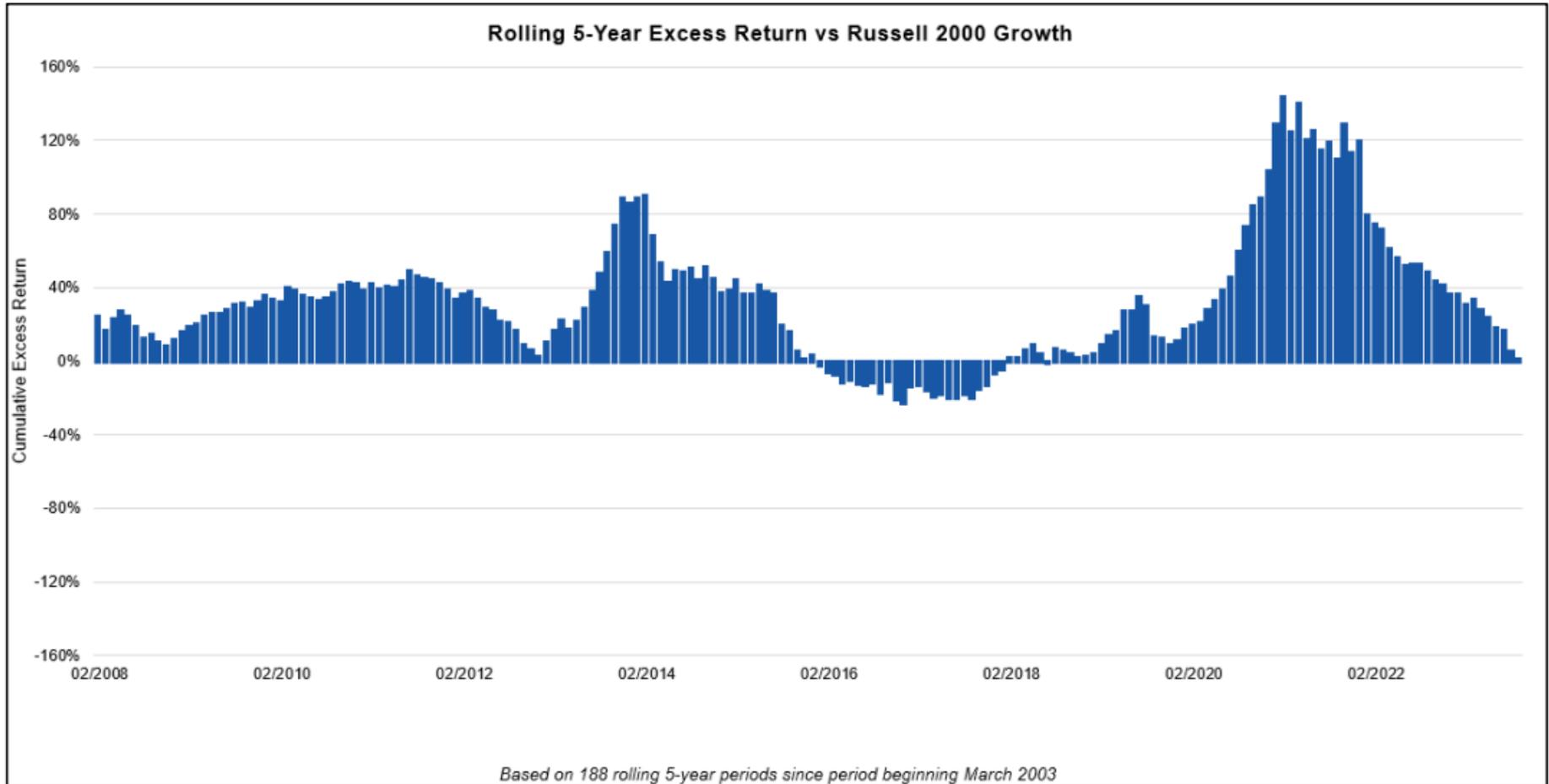


	Inception Through Dec 2009	31 Dec 2010	31 Dec 2011	31 Dec 2012	31 Dec 2013	31 Dec 2014	31 Dec 2015	31 Dec 2016	31 Dec 2017	31 Dec 2018	31 Dec 2019	31 Dec 2020	31 Dec 2021	31 Dec 2022	30 Sep 2023	Total	Incremental Cash Flows Since Initial Funding ³
Yearly Cash Flows (Millions USD) ²	577.3	-15.4	-17.5	-171.1	375.6	-100.0	0.0	0.0	0.0	-0.5	296.5	-346.6	-308.2	2201.8	-977.3	1514.7	923.0



Lord Abbett – Historical Performance

- Lord Abbett’s high-growth style of investing has resulted in a distinct historical performance profile, which is characterized by periods of historically significant outperformance vs. the Russell 2000 Growth index, followed by short-term setbacks, stabilization and then resumption of outperformance.

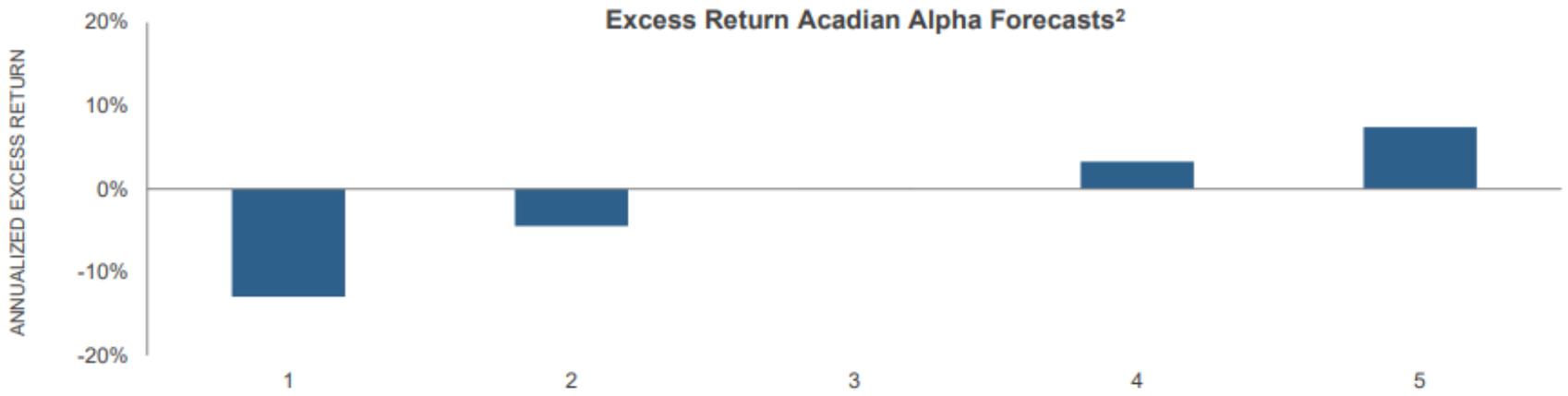
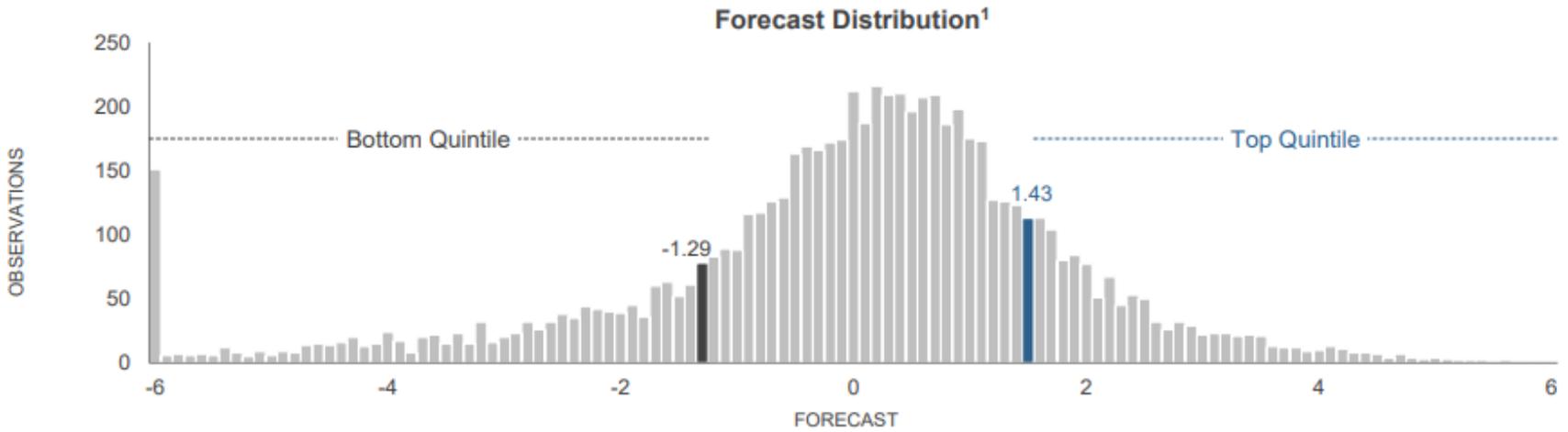


Source: eVestment. As of 9/30/23.



Stock Forecast Distribution and Returns

Trailing 10 Years as of June 2023



Small Cap Equity-Detailed slides

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Small vs. Large

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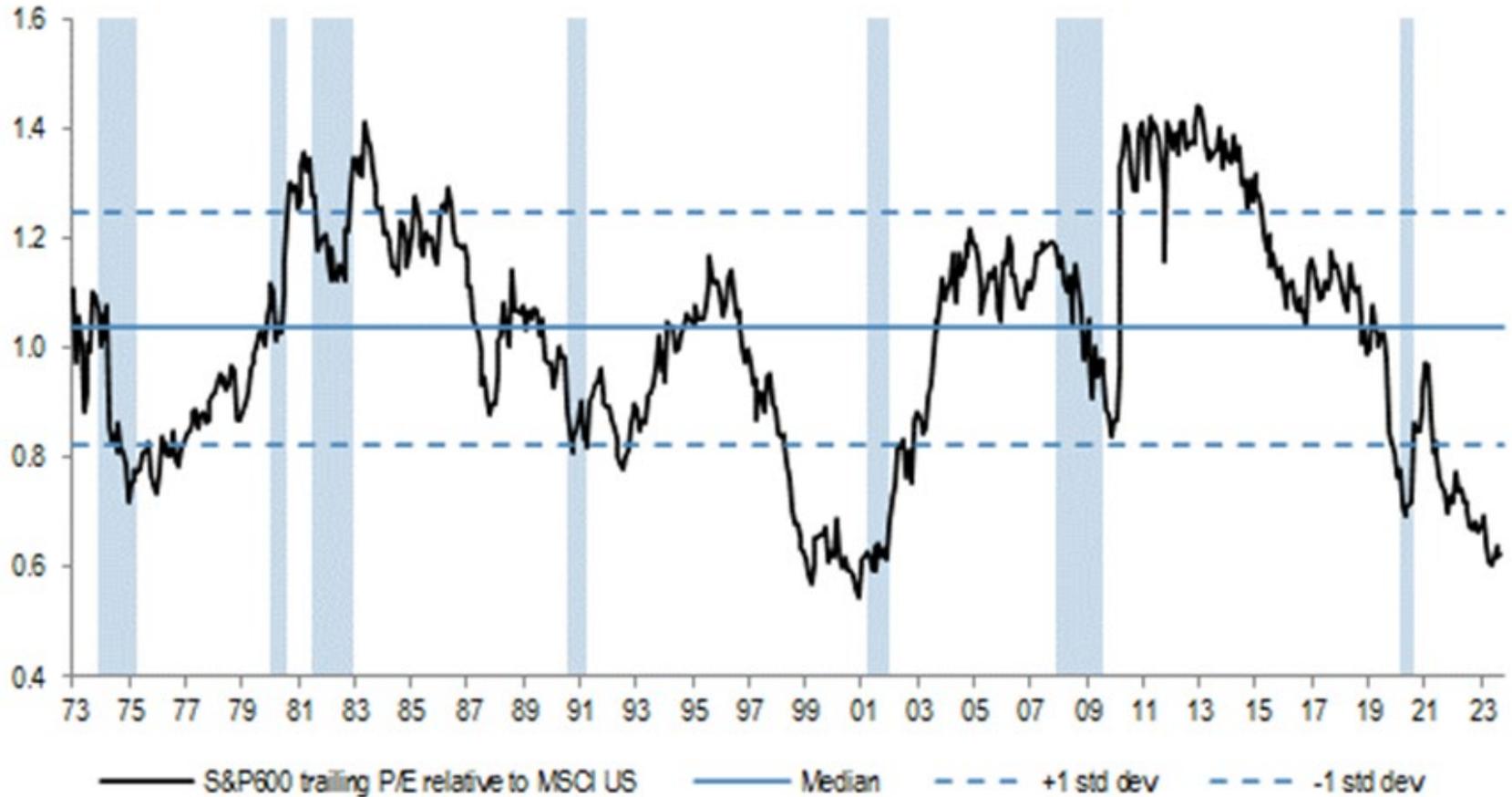
Relative Performance of Small vs. Large Caps Has Historically Been Cyclical

Rolling 3 Year Annualized Performance of Russell 2000® Growth Versus Russell 1000® Growth



Small vs. Large - Domestic

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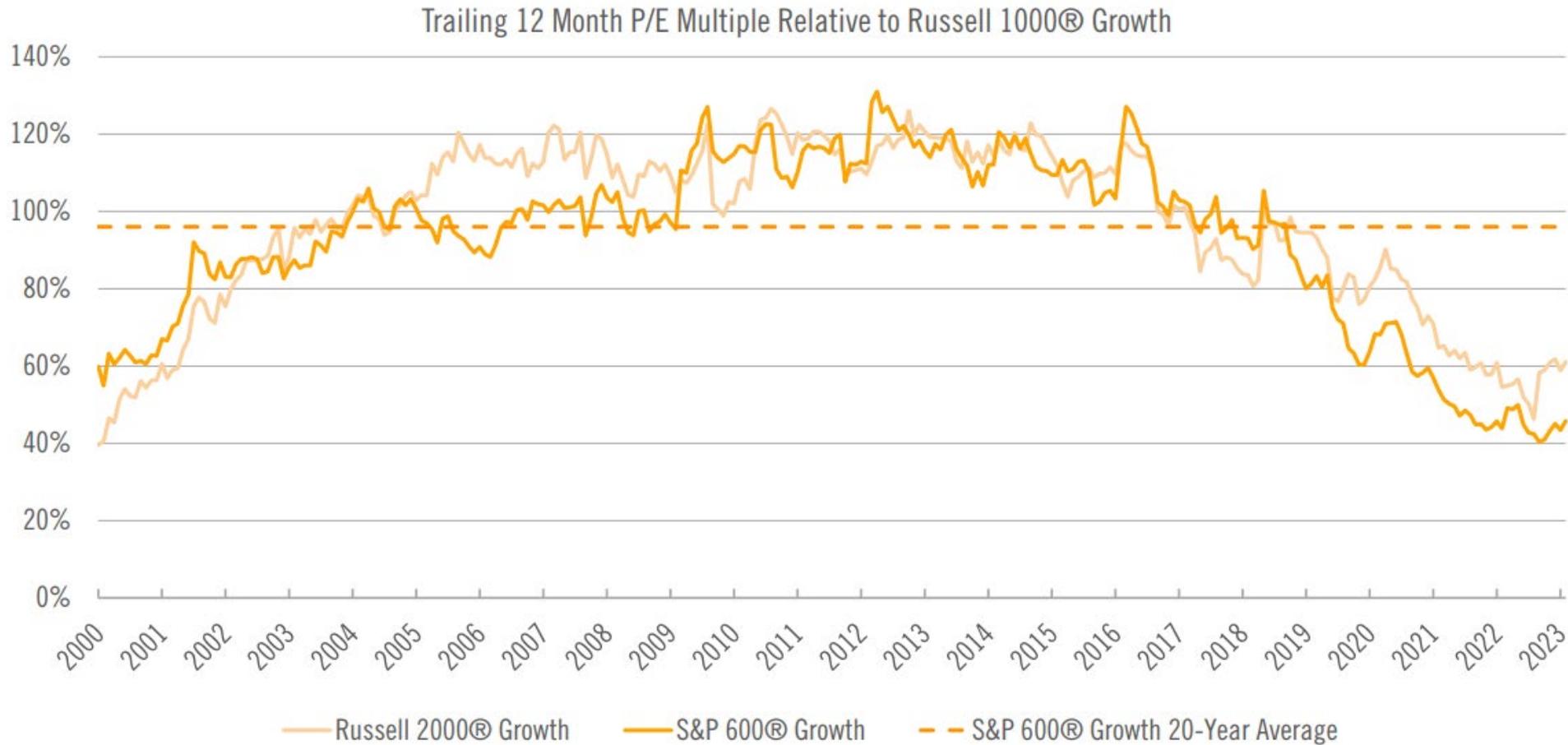


Small vs. Large - Developed

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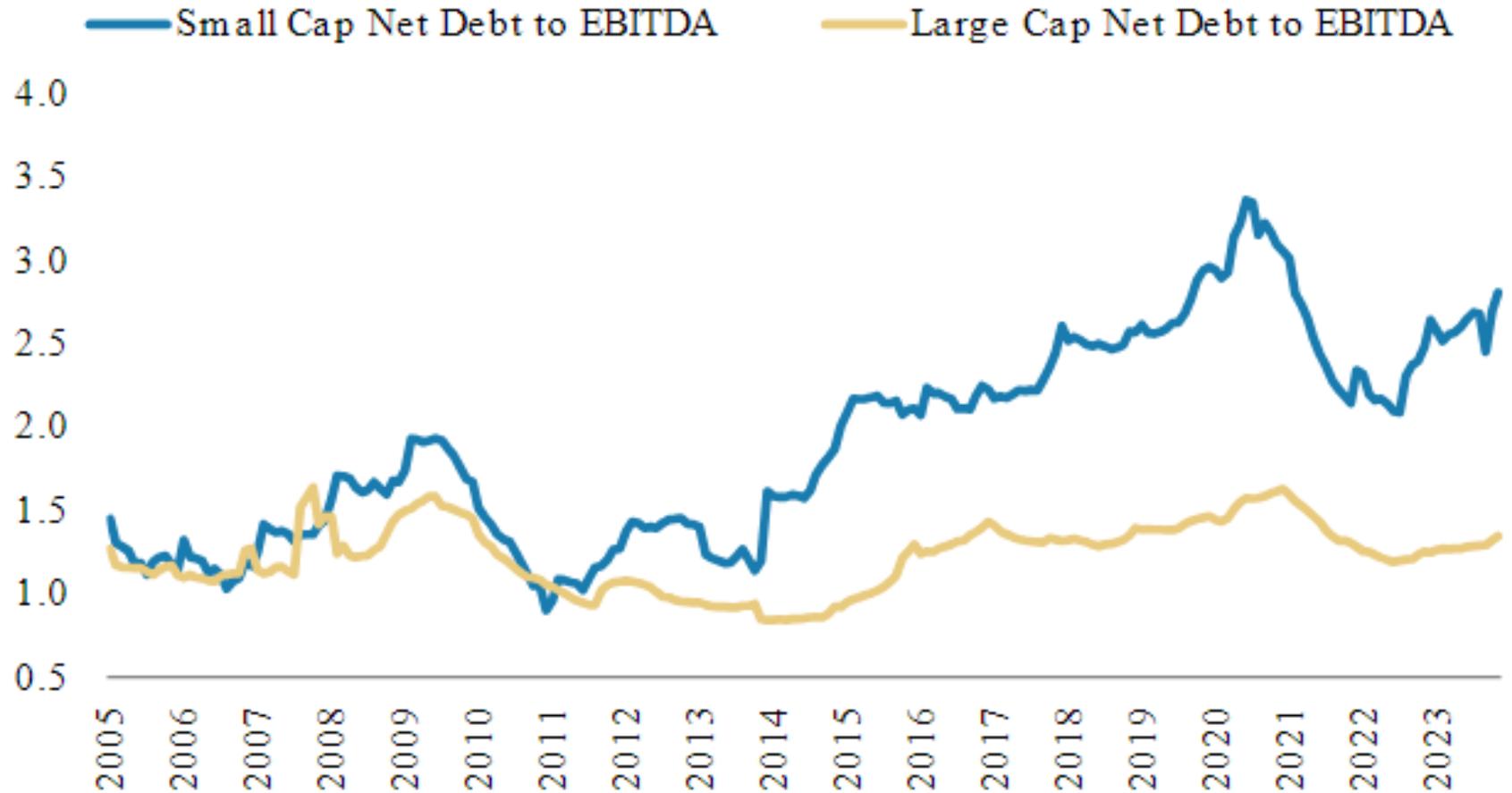


Relative Small Cap Valuations Are At or Near Historic Lows



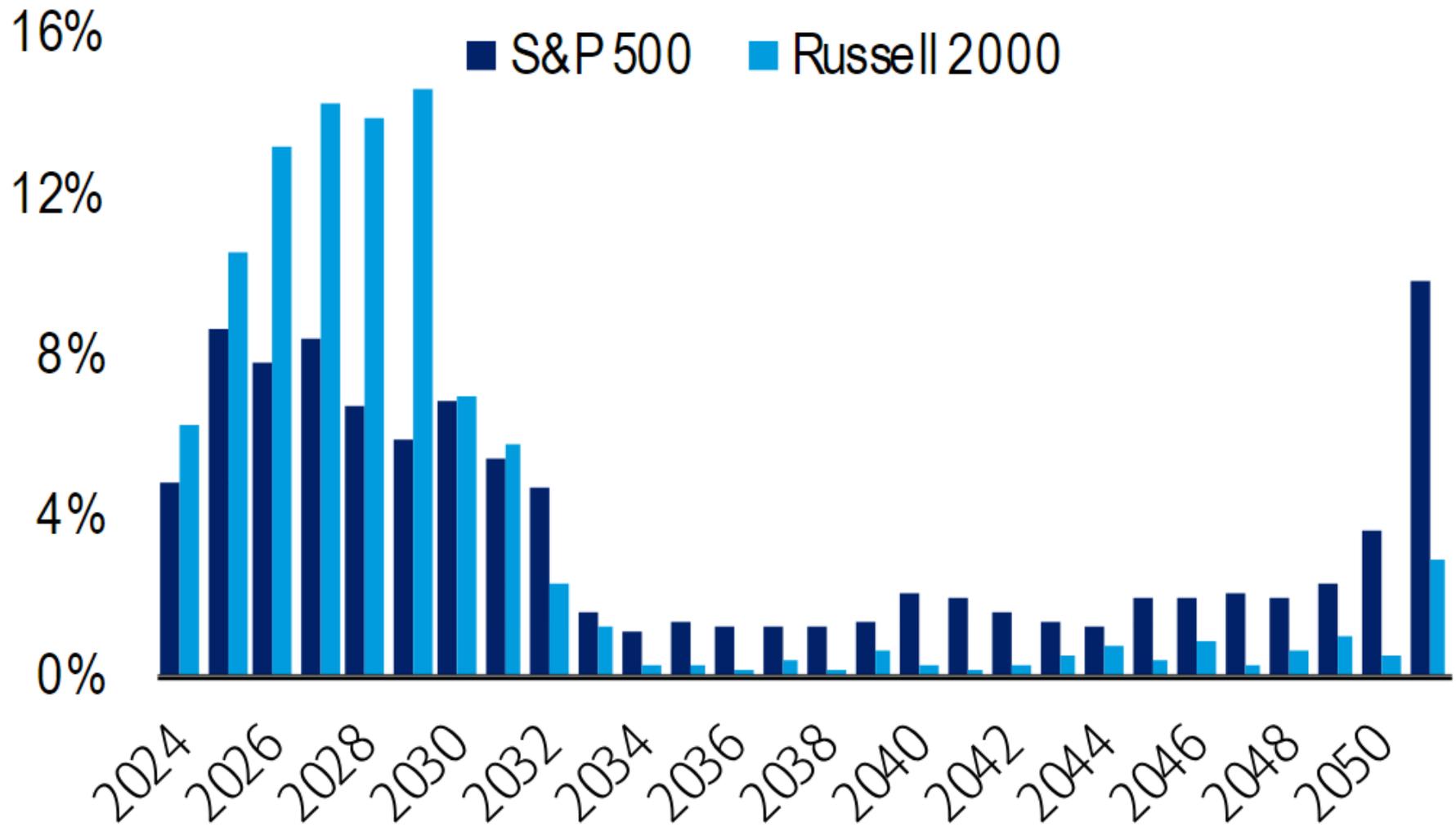
Small vs. Large – Net Debt to EBITDA

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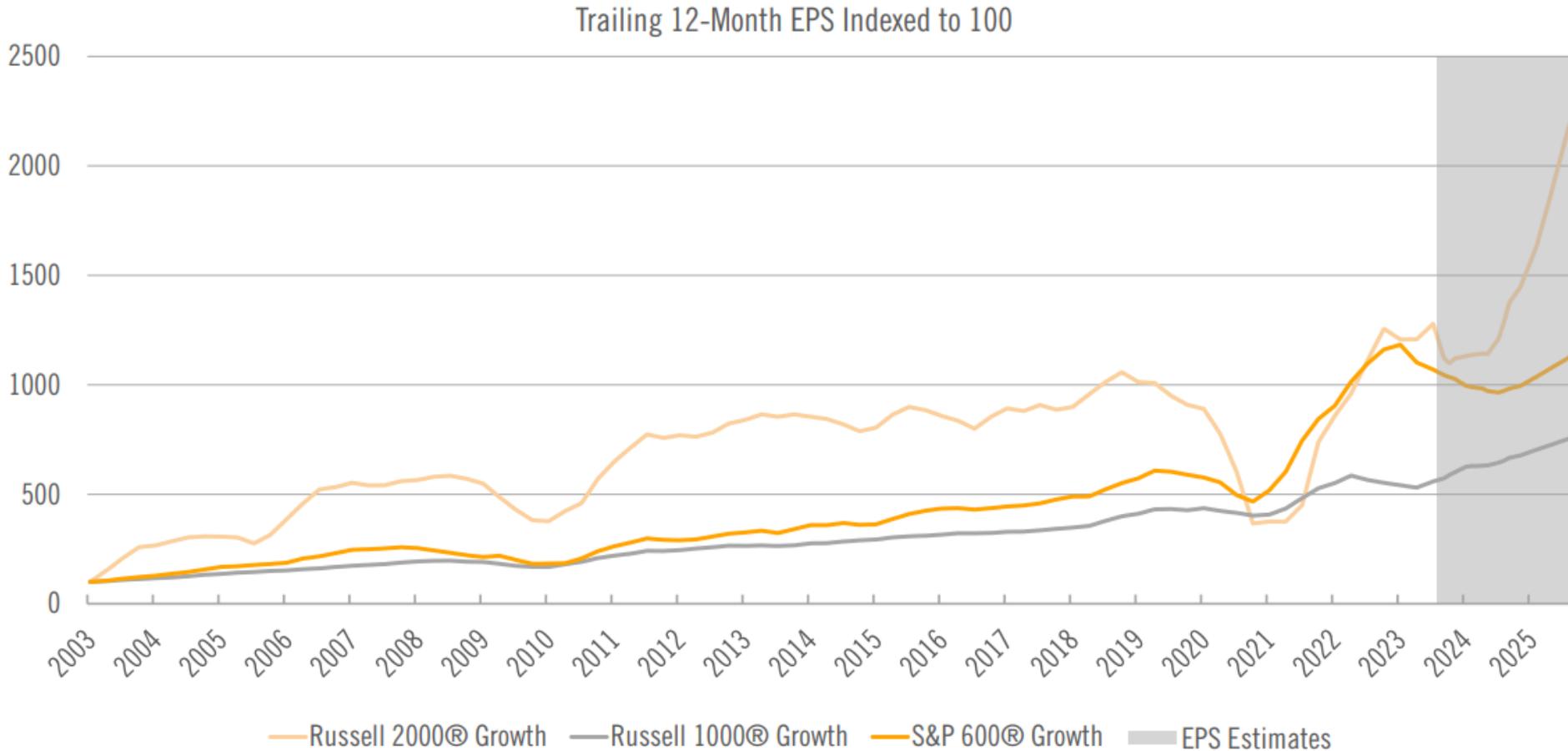


S&P 500 debt maturing in manageable chunks, but not the Russell 2000

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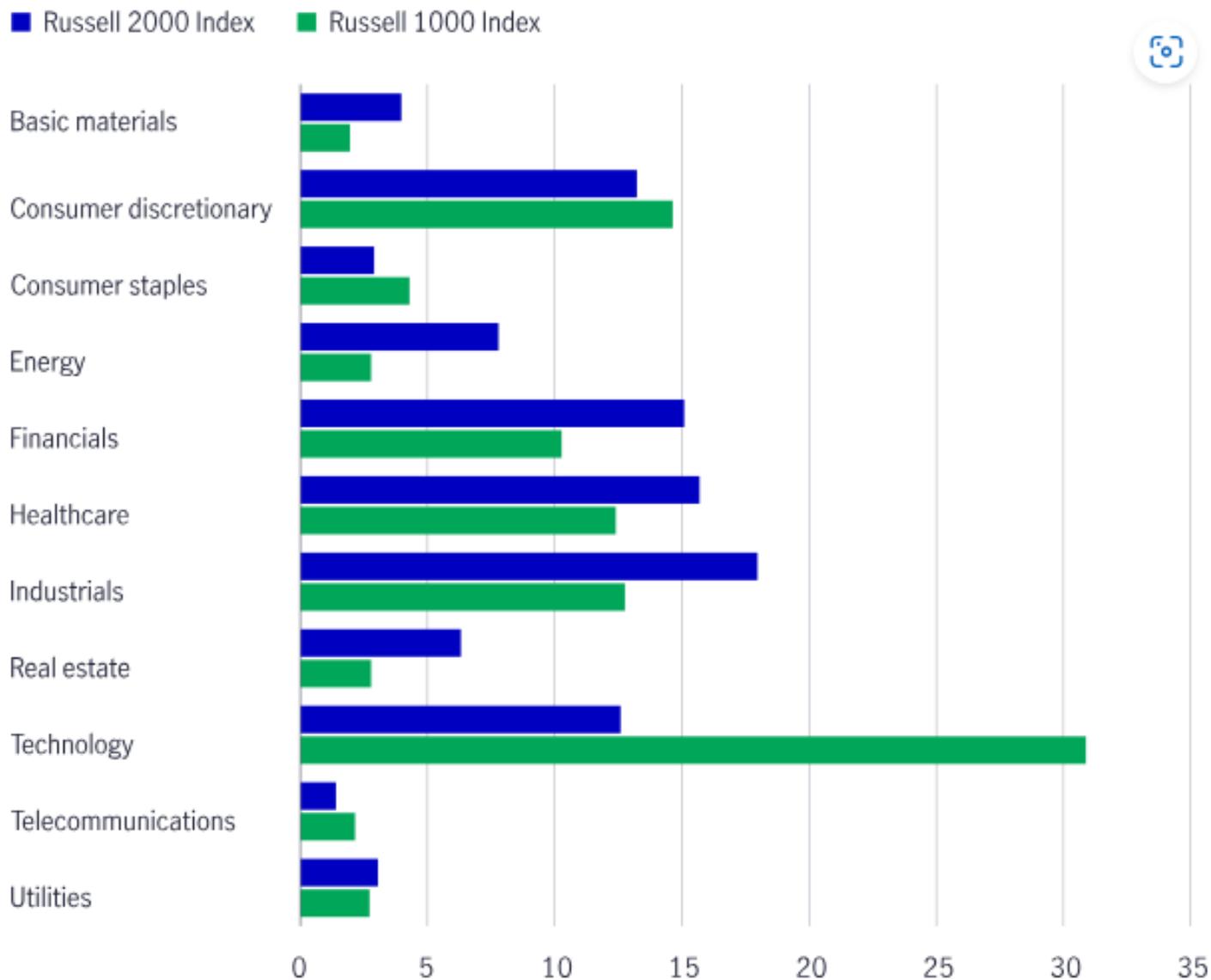


And Yet Earnings Growth Expectations Remain Robust



Small caps offer broader sector representation than large caps

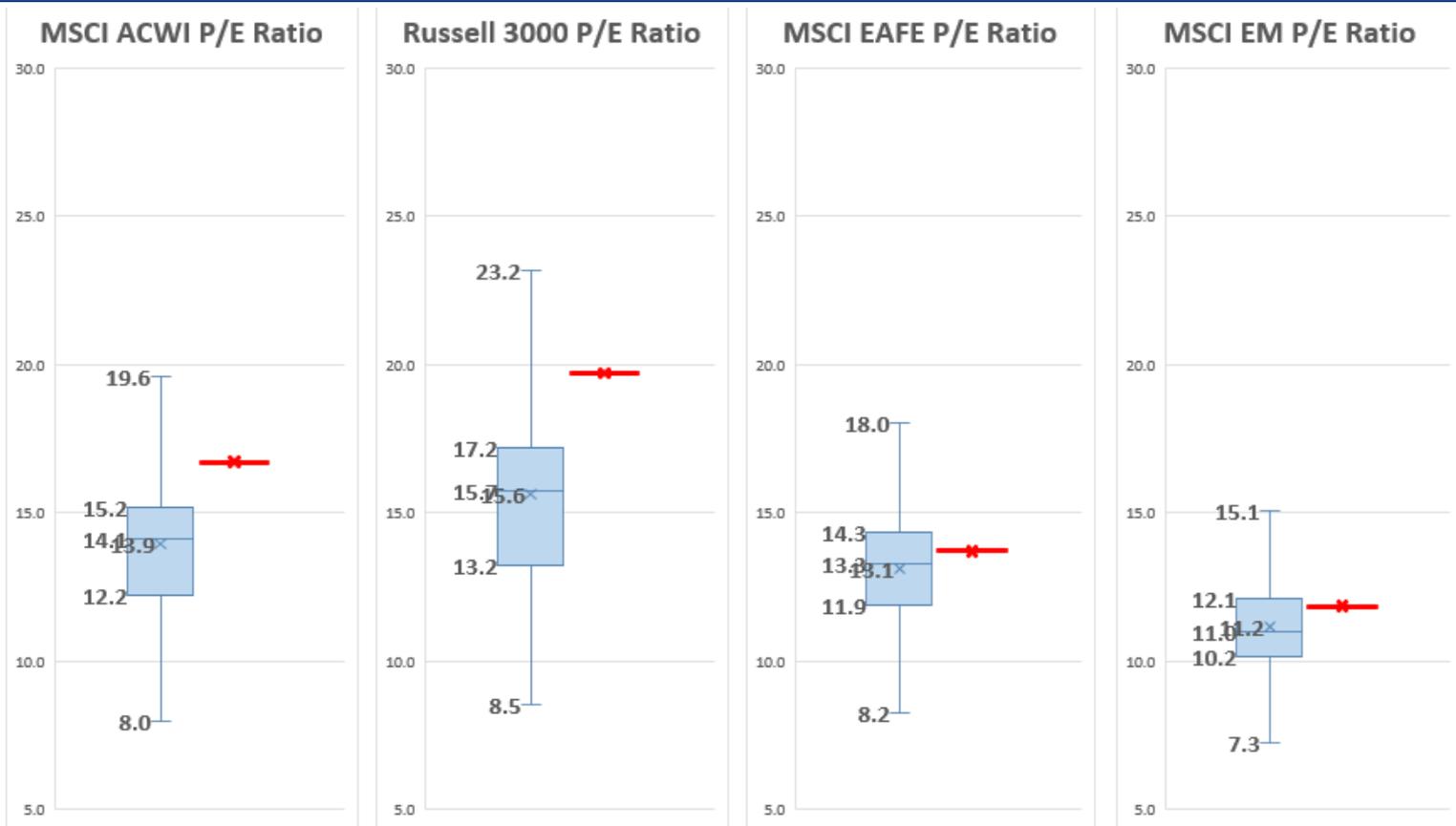
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Public Equities are Expensive Relative to Historical Norms

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As of Dec 2023

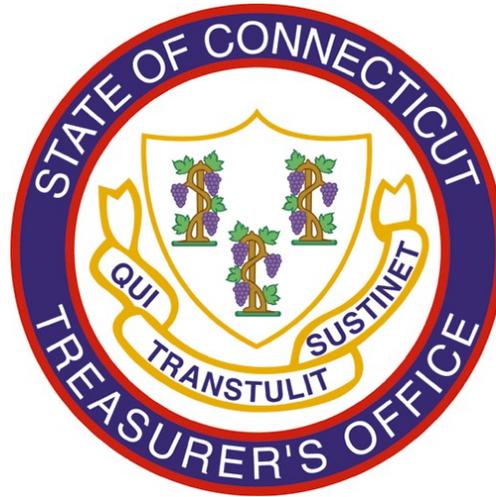


MSCI ACWI P/E Ratio	
Current	16.71
Mean	13.95
STD	2.24
Z	1.23

Russell 3000 P/E Ratio	
Current	19.70
Mean	15.63
STD	2.90
Z	1.40

MSCI EAFE P/E Ratio	
Current	13.70
Mean	13.10
STD	1.85
Z	0.33

MSCI EM P/E Ratio	
Current	11.85
Mean	11.15
STD	1.49
Z	0.47



Hedging FX Exposure: A Study

January 10, 2024



Executive Summary

Global Investing: Diversification and Currency Risk

- Global multi-asset class portfolios make investments in foreign markets for long term return and diversification objectives.
- As part of this process, the overall portfolio will have exposure to foreign currencies. This by-product of foreign investing adds a component of residual risk that should be reviewed and analyzed to better understand its effect on the overall portfolio.

Pension Liability Profile

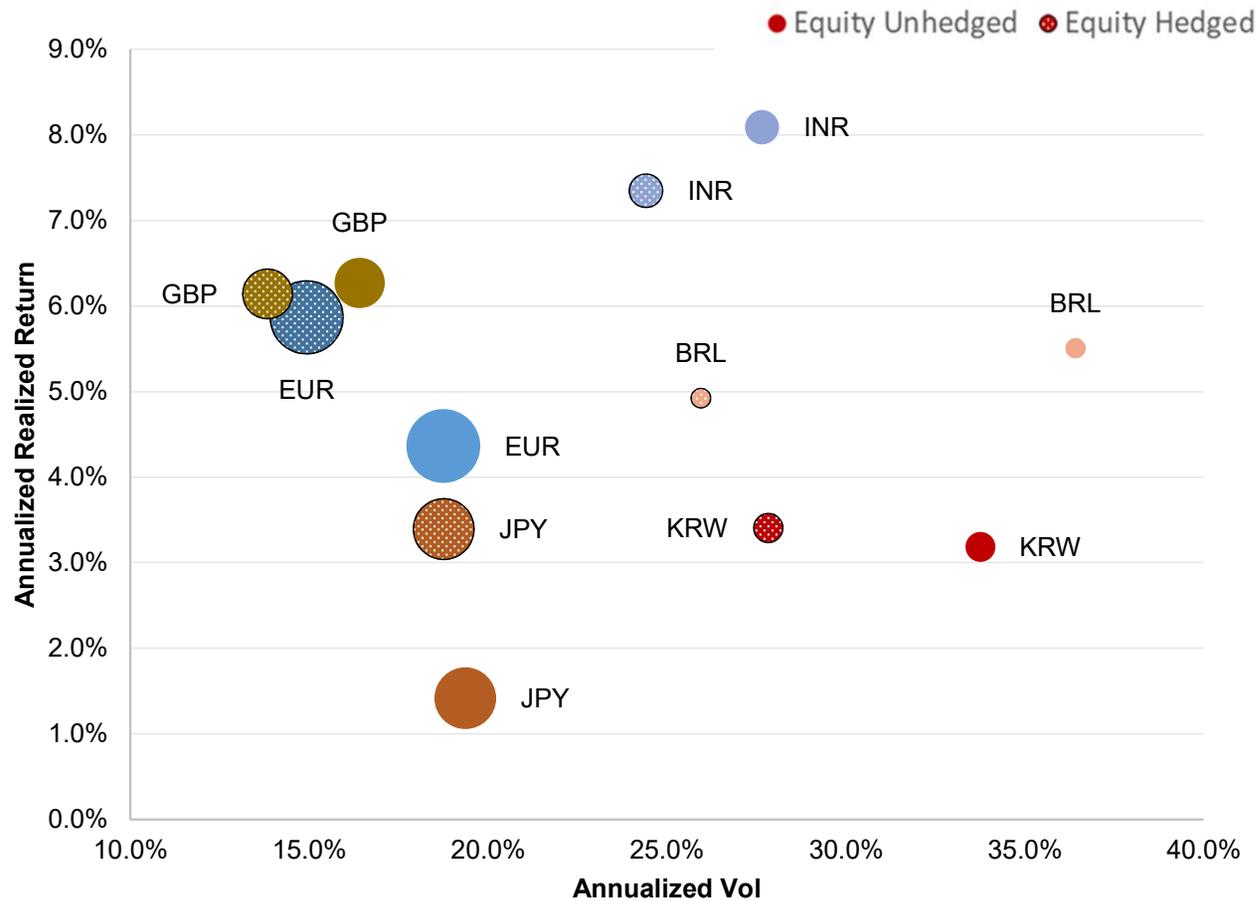
- Like other pension plans, the CRPTF portfolio aims to generate retirement income for the pensioners of the state.
- With this objective, the CRPTF needs to cover a future stream of payments, ie. a liability stream, fully denominated in US dollars.

Review FX Hedging to Improve Portfolio Performance

- Our objective is to assess the risk and return implications of the overall FX exposure from a total portfolio perspective. This analysis should provide insights to determine if it would be better to partially/fully hedge this exposure to reduce risk and possibly improve returns over time.

Historical unhedged and hedged equity returns and volatilities by currency

- FX hedging tends to reduce volatilities and in some cases increase returns

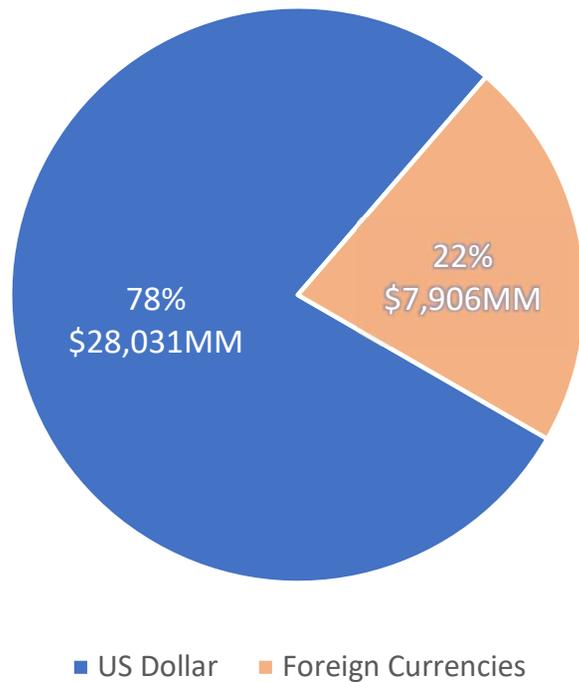


Source: PIMCO, as of 10/31/2023, based on 5 year horizon return, risk estimates

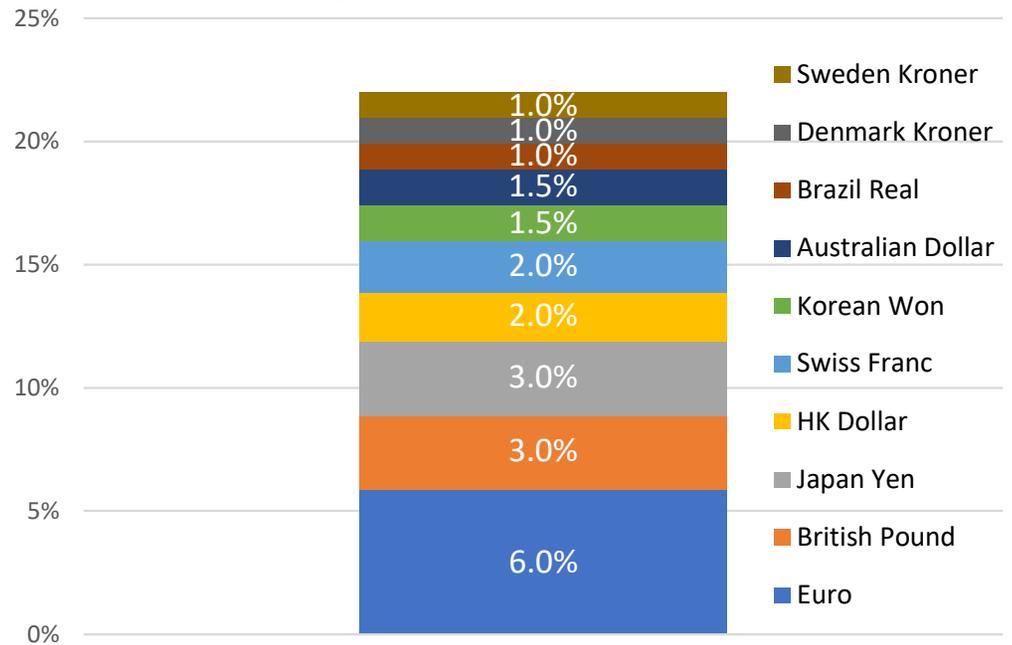


CRPTF Current FX Exposure

CRPTF Portfolio FX Exposure



Foreign Currency Components



Source: State Street



Components of FX Return



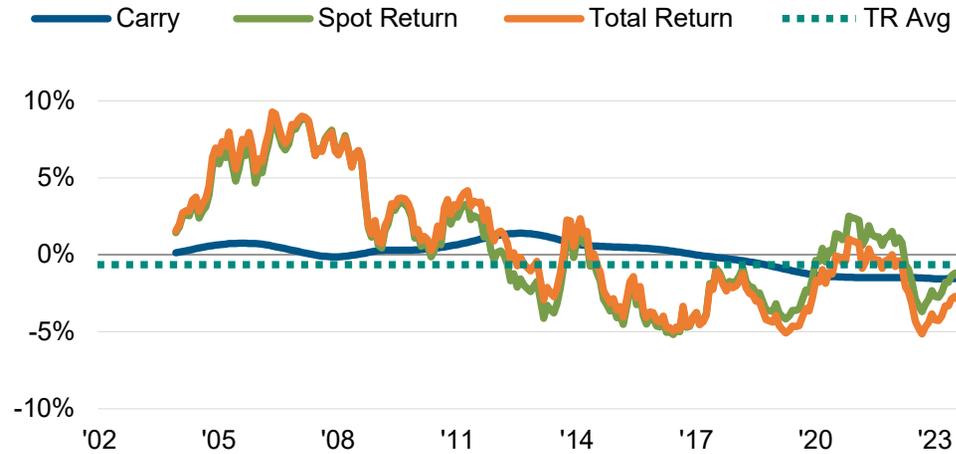
Difference in the Interest Rates between the Foreign Currency and the US Dollar



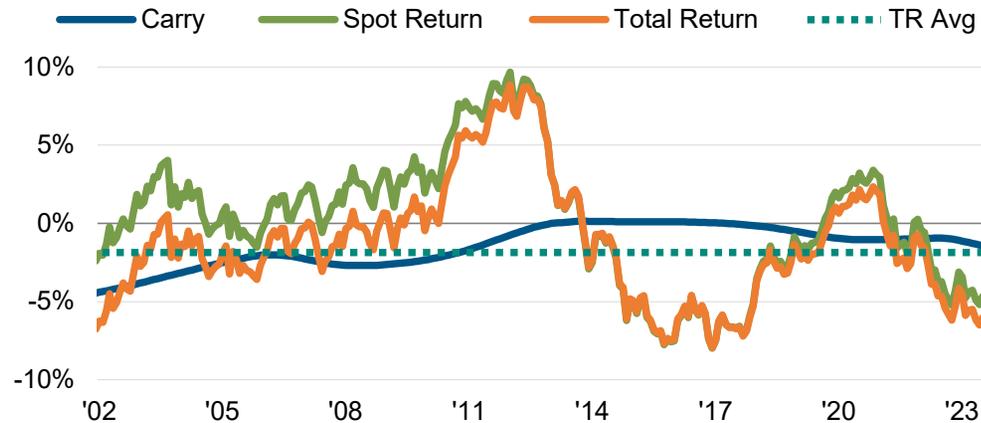
Euro and Japanese Yen: Return and Carry

Total Return mostly determined by Spot FX changes

EUR 5 year rolling



JPY 5 year rolling

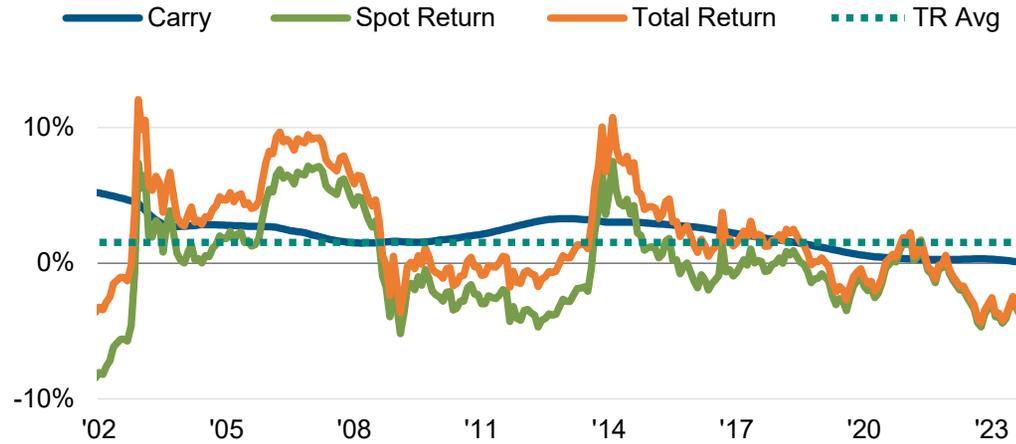


Source: PIMCO



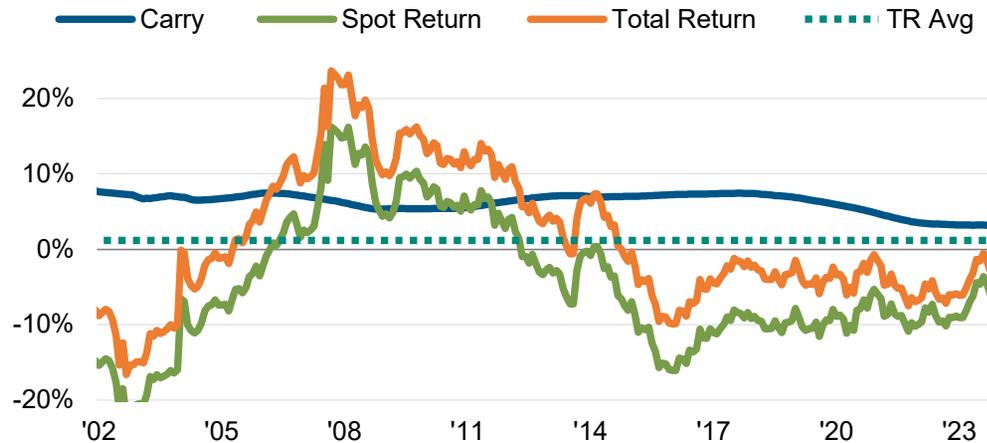
Korea Won and Brazil Real: Return and Carry

KRW 5 year rolling



Carry is an important component of Total Return

BRL 5 year rolling



Source: PIMCO



Components of FX Exposure

Return

Hedging higher-yielding currencies into USD can reduce returns.

Risk

Specific FX volatility can be material, ranging from 8%-12% for most developed currencies.

Correlation

FX risk has a wide range of correlations with asset returns and other currencies, and should be analyzed in a total portfolio context.

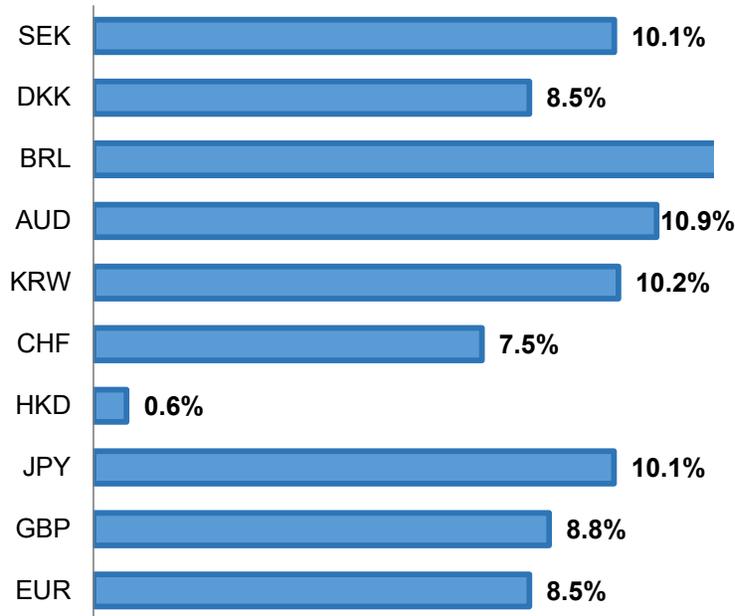
Observations on Portfolio FX Hedging

- Global multi-asset class portfolios have investments in several foreign currencies which presents a currency hedging optimization problem.
- Some currencies will add risk to the portfolio while not adding a positive return, or in some cases, presenting a negative return.
- Hedging these currencies from a total portfolio perspective should reduce the overall volatility without affecting returns, therefore presenting an optimal performance with similar/higher return and lower volatility.



Developed Market Volatilities and Correlations

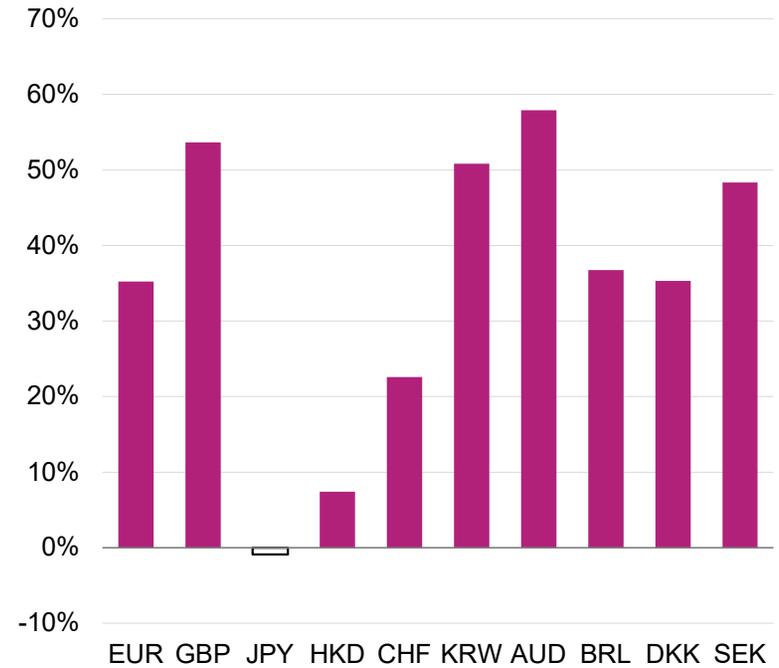
Estimated Volatilities



- Long-term volatilities for main developed market currencies usually range in 8%- 12%
- FX volatility can be material, especially for low to medium risk portfolios

Source: PIMCO, based on 5 year horizon return, risk estimates

Estimated Correlations with Global Equities USD Hedged



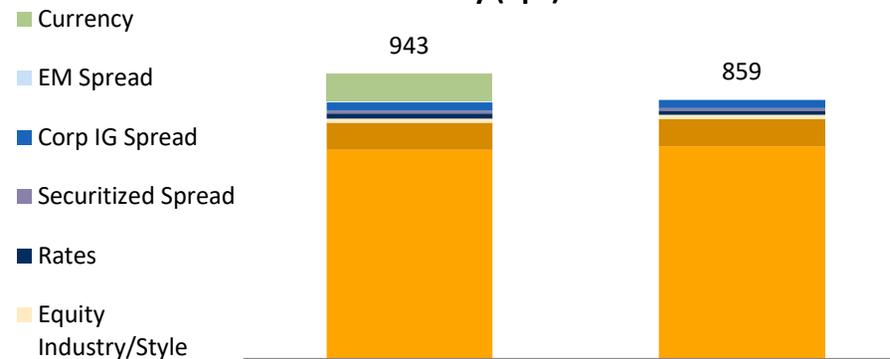
- These are estimated (ex-ante) correlations of currency pairs vs. a USD hedged global equity index (MSCI Global Index)
- Compared to the USD, most currencies are risk-on which will add to the equity risk.
- JPY is the only risk-off currency vs USD, but the correlation is not negative enough to make it a net risk diversifier.



Total Portfolio Volatility: Hedged vs. Unhedged

- The following analysis shows the volatility profile of a model portfolio: 60% Equity MCSI All-Country Weighted Index (ACWI) / 40% Fixed Income BBG Aggregate under two scenarios: Fully Hedged and Unhedged
- The analysis shows the volatility contribution of different factors like Equity, Duration and Spread.
- The Hedged Portfolio has lower overall estimated volatility compared to the Unhedged Portfolio

Contribution to Estimated Volatility (bps)¹

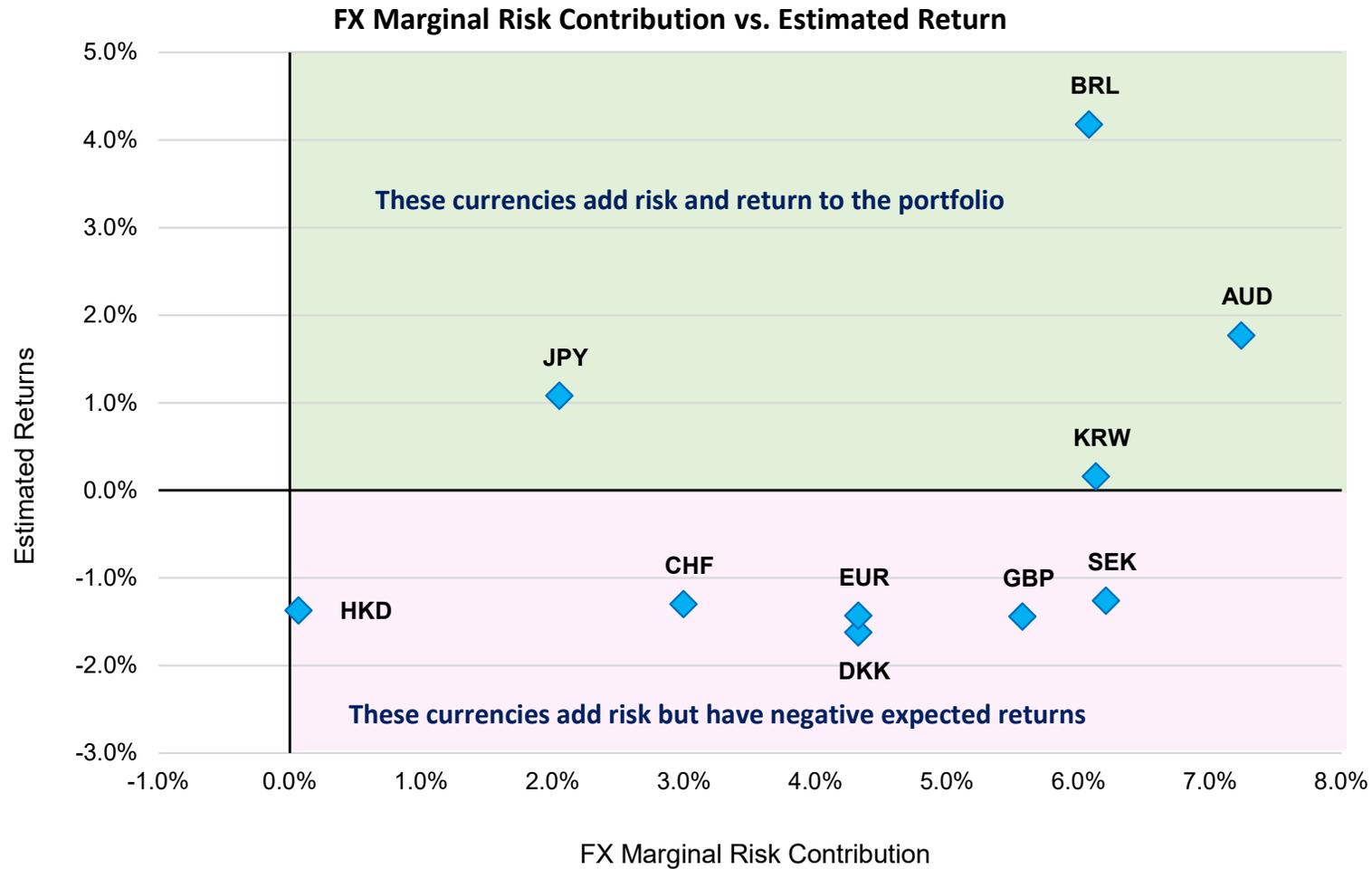


	60/40 Unhedged Portfolio		60/40 Hedged Portfolio	
	Factor Weights	Volatility Contrib. (bps) ¹	Factor Weights	Volatility Contrib. (bps) ¹
Equity Factors				
World Equity (DM)	0.53	692	0.53	704
World Equity (EM)	0.07	90	0.07	90
Interest Rate Factors (Yrs.)				
Nominal Duration (DM)	2.35	18	2.35	13
Nominal Duration (EM)	0.01	0	0.00	0
Real Duration	0.00	0	0.00	0
Spread Duration Factors (Yrs.)				
Securitized Spread	0.68	9	0.68	8
Corp IG Spread	0.80	28	0.80	27
EM Spread	0.06	2	0.06	2
Currency Factors				
DM Currency	0.18	76	0.00	0
EM Currency	0.05	15	0.00	0
Estimated Volatility¹		9.4%		8.6%

Source: PIMCO, based on quantitative risk estimates

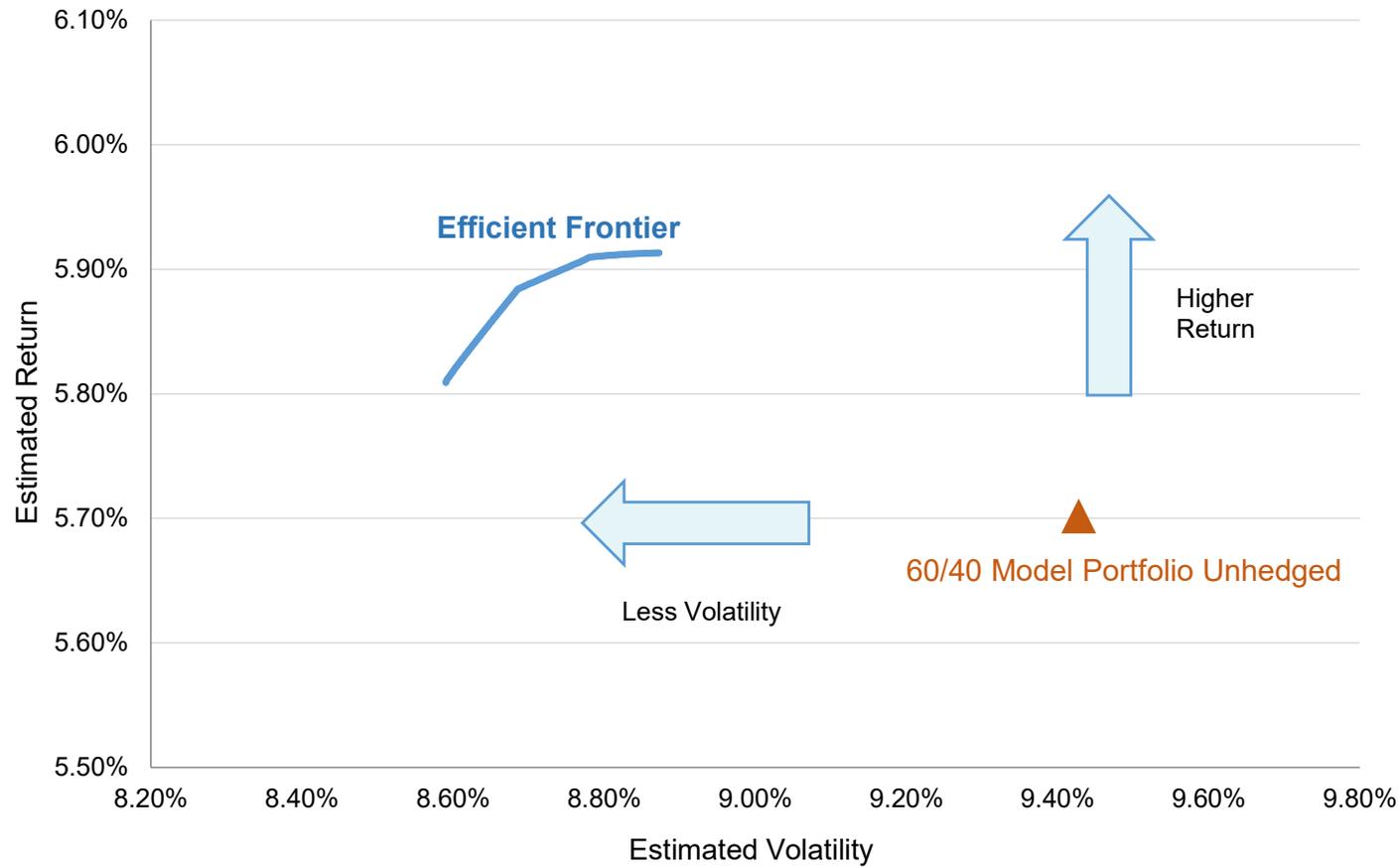
Marginal Risk and Return Contribution of Currencies

- Most currencies add Marginal Risk, while their Expected Return contribution can be positive or negative



Source: PIMCO, ex-ante data based on return, risk estimates

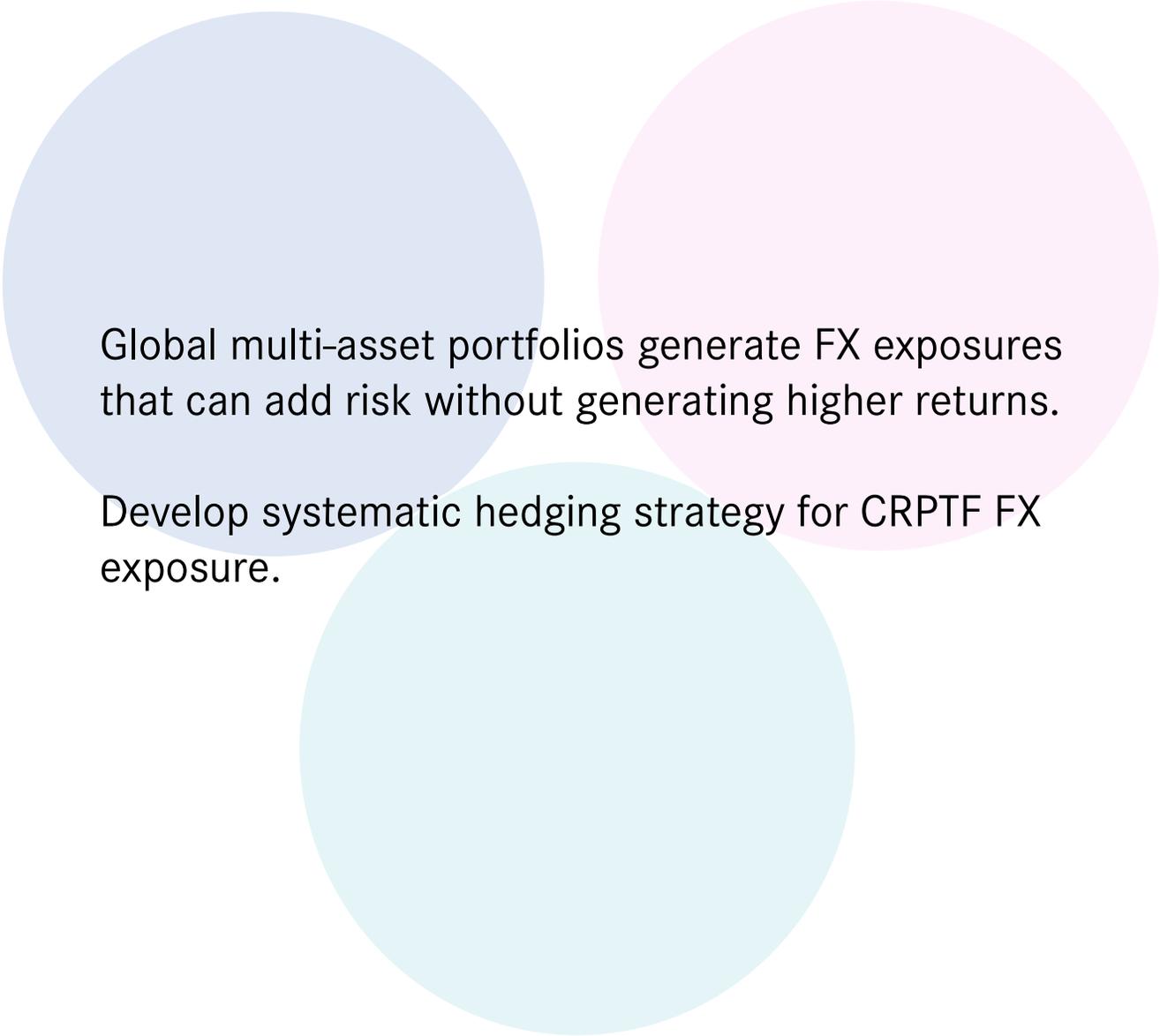
Currency Optimization Frontier



Source: PIMCO, based on return, risk estimates

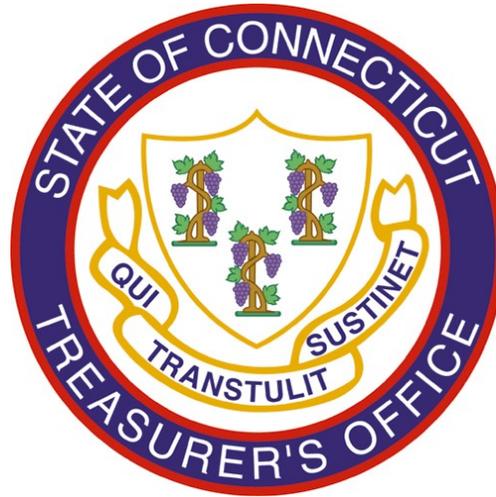


Conclusion and Next Steps



Global multi-asset portfolios generate FX exposures that can add risk without generating higher returns.

Develop systematic hedging strategy for CRPTF FX exposure.



Connecticut Short-Term Investment Fund

Investment Advisory Council Meeting
January 10, 2024

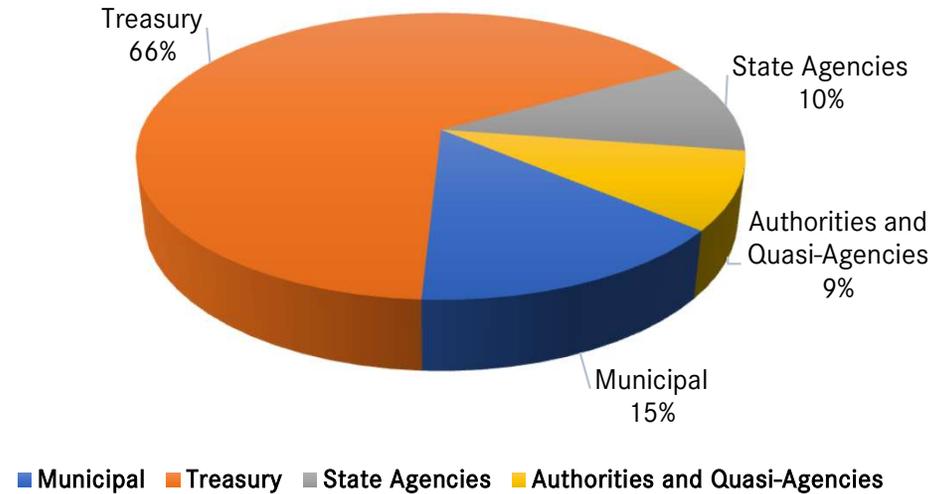
Fund Facts as of June 30, 2023

- **Fund Inception:** 1972 as an investment vehicle for state operating cash
- **Objective:** As high a level of current income as is consistent with, first, the safety of principal and, second, the provision of liquidity.
- AAAM rated by Standard and Poor's
- Benchmarked to iMoneyNet's First Tier Institutions-Only AAA-Rated Money Fund Report (MFR) Averages Index
- **Total Assets:** \$19.1 Billion
- Substantial reserves to protect NAV against erosion of market value
- Approximately 1 – 4 basis points of expenses excluding the 10 basis points contributed to the reserve for loss

Ownership

<u>Distributions:</u>	<u>Amount</u>	<u>Percentage</u>
Municipal	2,789,571,858.27	15%
Treasury	12,522,302,955.57	66%
State Agencies	1,956,104,840.15	10%
Authorities and Quasi-Agencies	1,657,967,820.52	9%
Total	18,925,947,474.51	100%

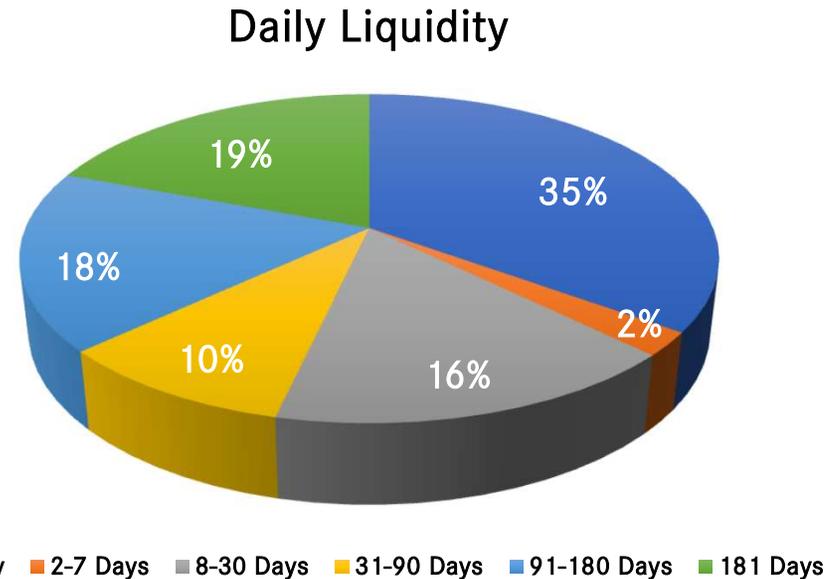
STIF Ownership
as of June 30, 2023



- Extremely stable balances with the State’s common cash pool accounting for two-thirds of the entire portfolio
- Historically, municipalities totaled approximately a third of the portfolio, but outsized State balances have dropped municipal balances to 15 percent of STIF assets

Daily Liquidity

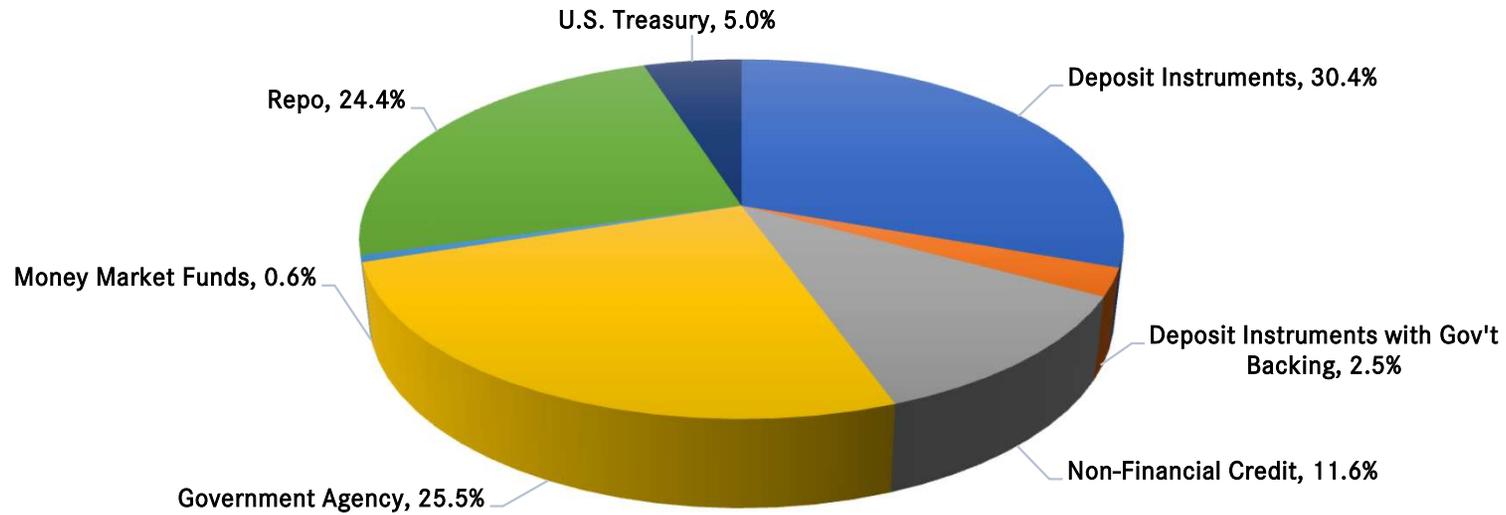
<u>Daily Liquidity</u>	
1 Day	6,662,556,595
2-7 Day	439,738,944
8-30 Day	3,107,165,922
31-90 Day	1,809,718,969
91-180 Days	3,365,090,544
>181 Days	3,665,156,653
Total	19,049,427,627



- STIF has a minimum daily liquidity requirement of 30 percent
- More than half the portfolio matures within one-month
- State’s balances are very stable and account for more the twice the minimum daily liquidity requirement

Portfolio Diversification by Security Type

Portfolio Composition June 30, 2023

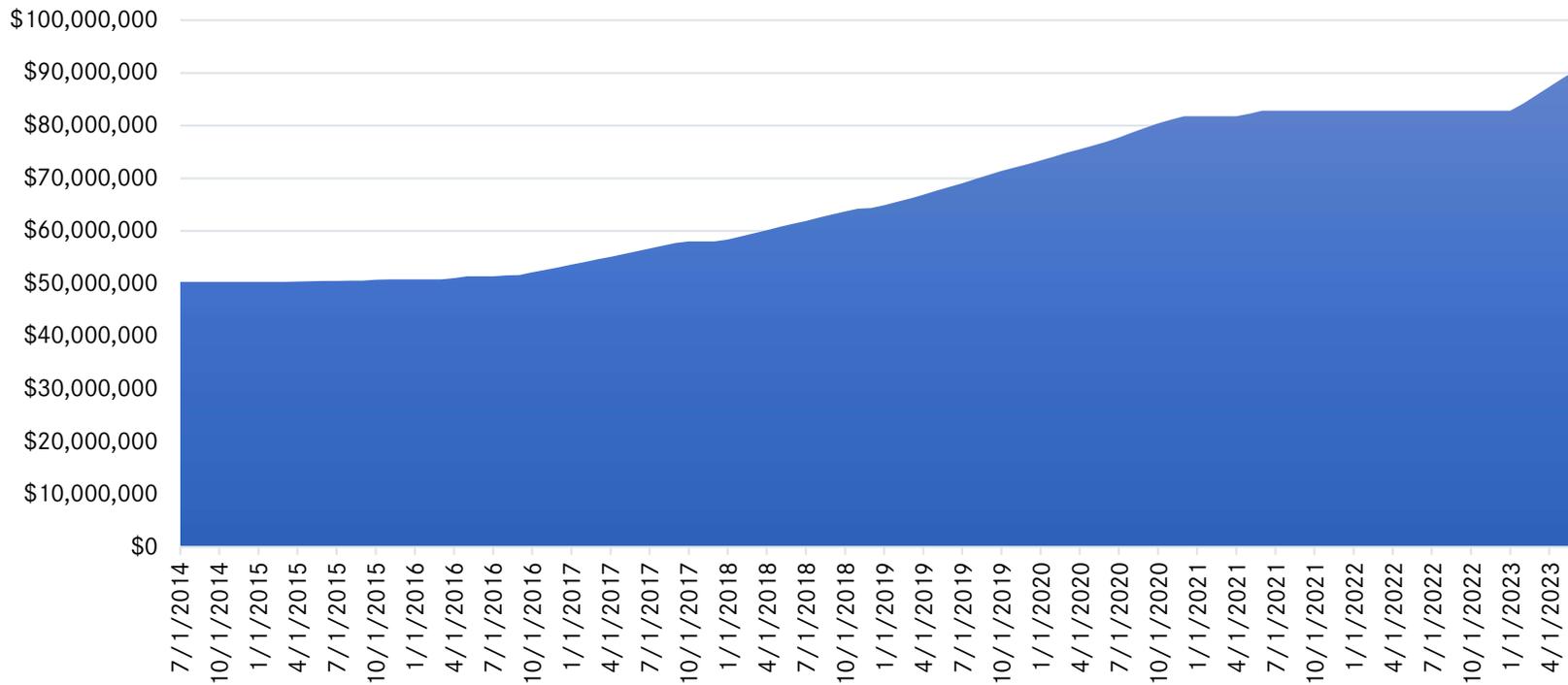


■ Deposit Instruments ■ Deposit Instruments with Gov't Backing ■ Non-Financial Credit ■ Government Agency ■ Money Market Funds ■ Repo ■ U.S. Treasury

- STIF has approximately 58 percent of its assets in securities with some sort of government guarantee
- 12 percent in A1+ Corporate Commercial Paper
- 30 percent in high-quality Certificates of Deposit

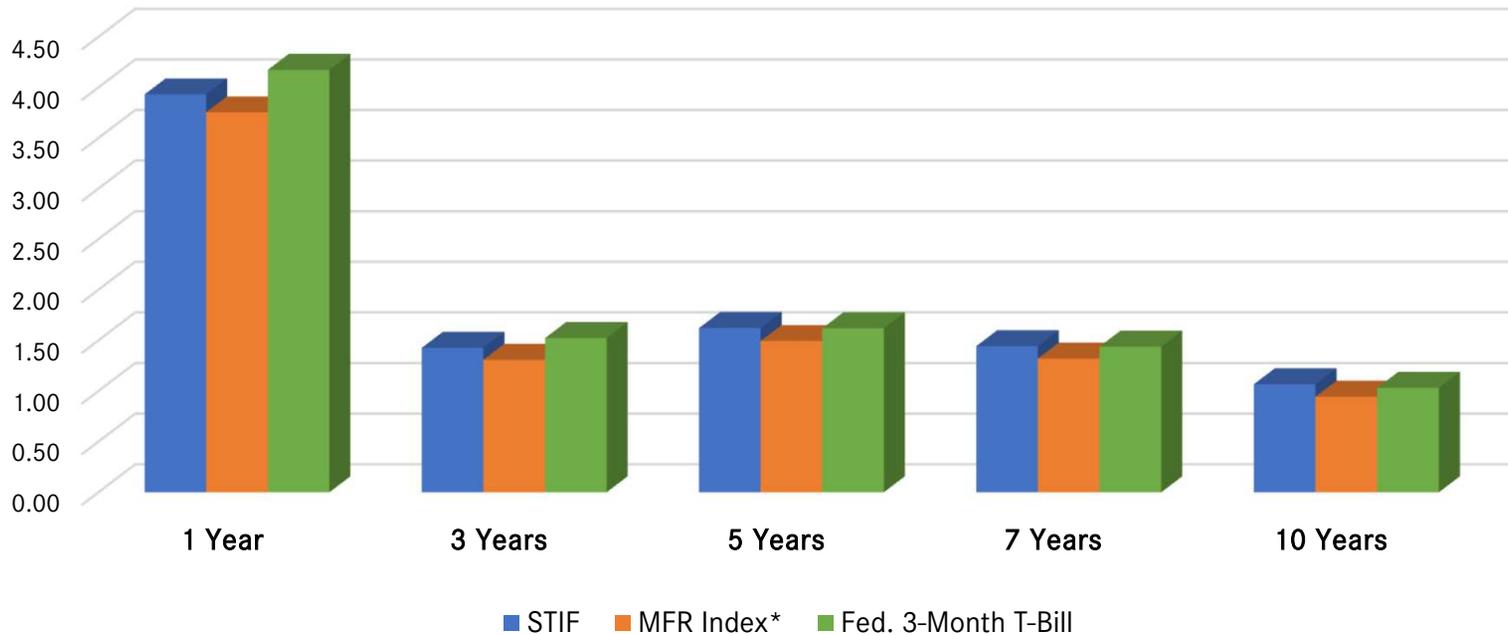
Reserves - June 30, 2023

STIF Reserve for Loss



- Reserve is targeted to be 1% of STIF assets. As assets grow, reserve continues to increase.

STIF Historical Performance vs. Benchmarks June 30, 2023

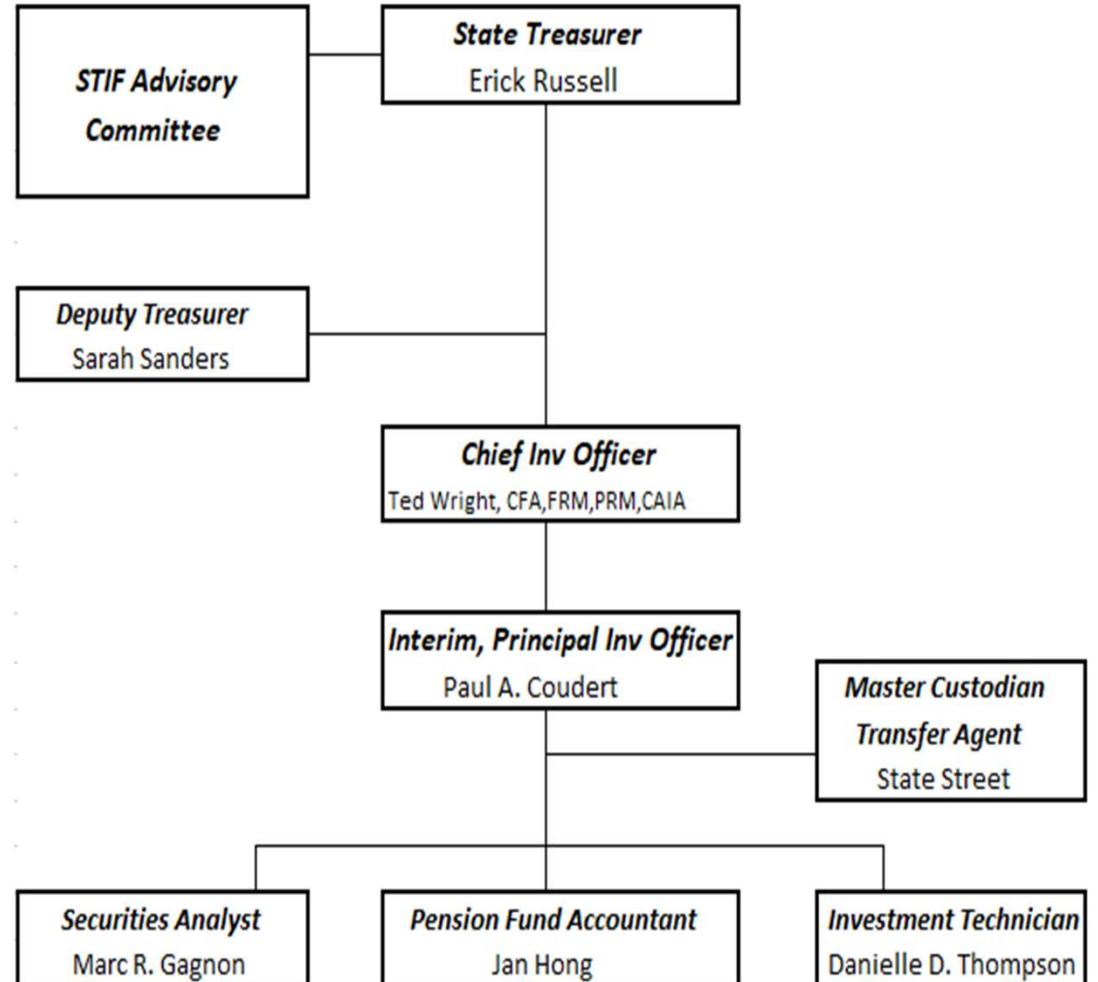


* Represents iMoneyNet Money Fund Average TM - Rated first Tier Institutional Average (MFR) Index.

- The fund continues to outperform its primary benchmark while maintaining a conservative investment approach.
- Over the past ten years, STIF has outperformed its primary benchmark by 13 basis points, adding more than \$100 million in excess earnings versus the iMoneyNet index.

Organization Chart

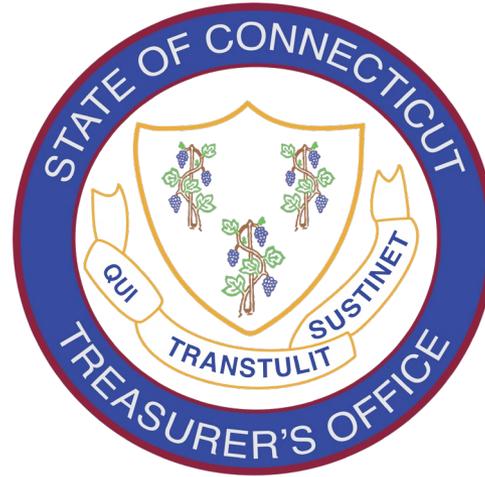
The team has an average of over twenty years of investment experience and is overseen by the Chief Investment Officer, who is responsible for the oversight of approximately \$70 billion in investments for the Office of the State Treasurer.



Summation

- Connecticut's STIF continues to focus on liquidity and safety before yield, resulting in a conservative investment portfolio.
- The largest participants in the fund - the state and state agencies and authorities - are well understood and are partners as well as participants. The state is the largest participant and provides the fund with estimated larger flows well in advance of the occurrence.
- STIF's reserves, at nearly \$100 million, provide a significant cushion to the portfolio.
- The conservative portfolio combined with close coordination with large investors and reserves allow the fund to maintain a stable NAV across interest rate environments and redemption scenarios.

Connecticut Retirement Plans and Trust Funds



Portfolio Rebalancing Philosophy
January 10, 2024

New Strategic Asset Allocation Adopted in Fall of 2022

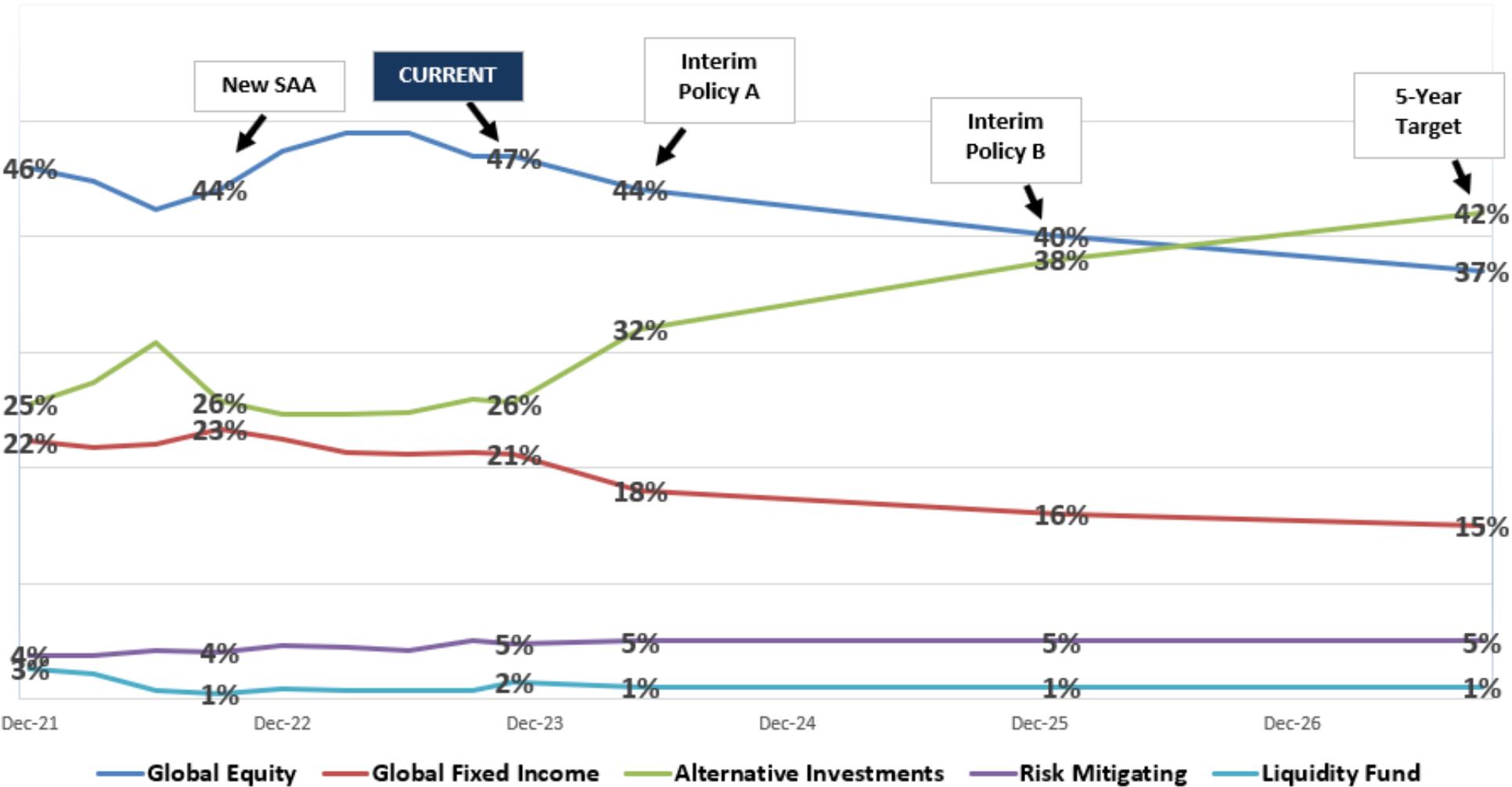
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- Global Equity rebalanced to reflect MSCI ACWI regional weights
 - Domestic Equity increased to reflect staggered Private Equity pacing plan
 - Core Fixed Income restructured to include Treasuries + new Active Strategies
 - TIPS eliminated from Portfolio
 - Infrastructure & Natural Resources rolled out as a “stand-alone” asset class
 - Overweight to Non-Core Fixed Income maintained as a tactical offset to Private Credit
 - Legacy Emerging Markets Debt reduced...used to fund higher Public Equities
 - Risk Mitigating Strategy was developed and funded
-
- Innovate our SAA Implementation - consider how PFM can achieve the asset allocation in a disciplined and thoughtful manner through interim policy targets.

A Marathon..Not a Sprint

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Current: As of November 30, 2023

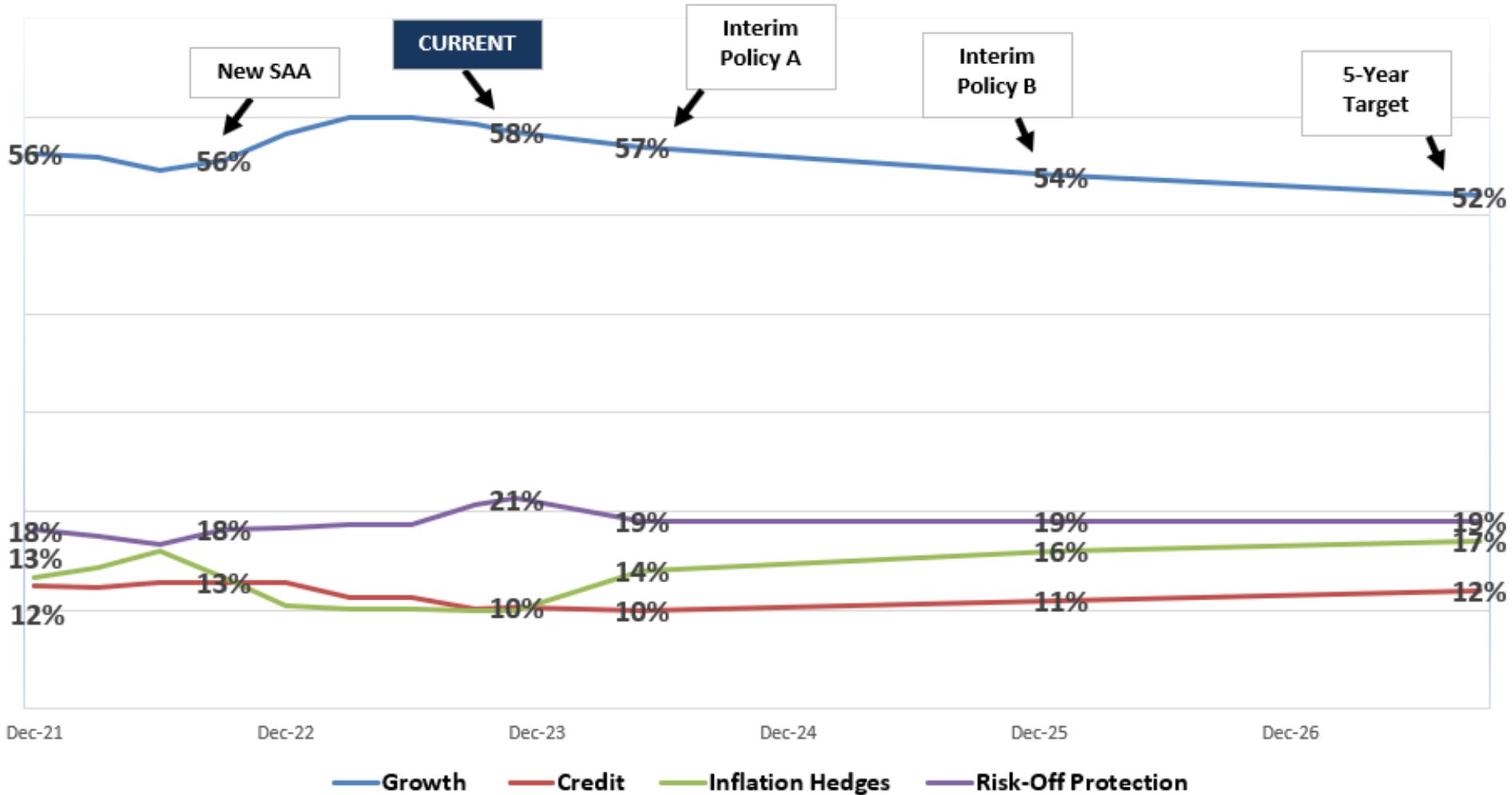


Public Proxy used for Thematic Buckets until Private

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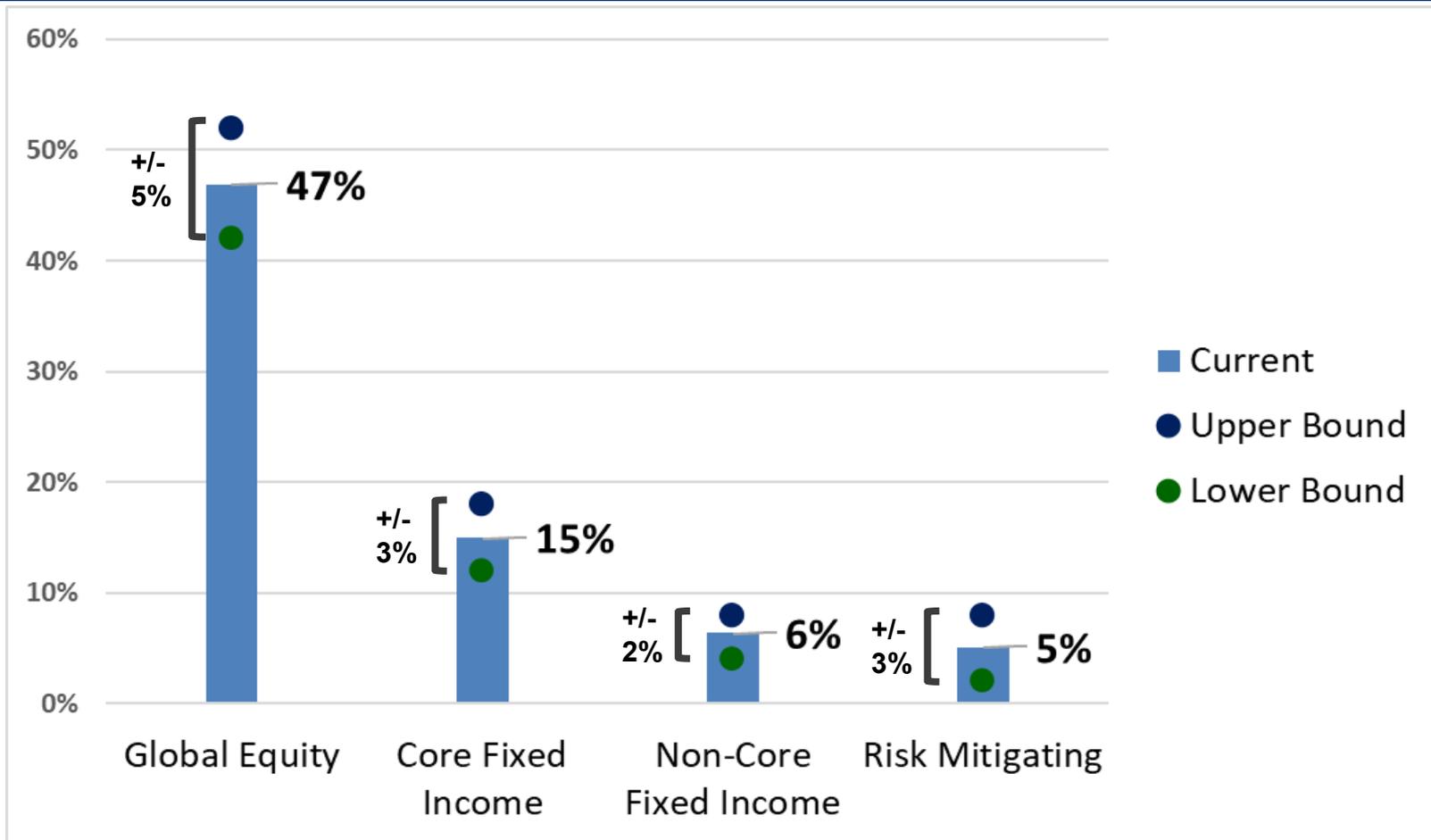
Commitments are Called

Current: As of November 30, 2023



Rebalancing bounds limit Tracking Error and reduce trading-related transaction costs

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Upper/ Lower bounds do not necessitate a systematic rebalancing but rather they are meant to serve as guideposts for initiating a discussion.

Portfolio Rebalancing Process

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1. The process is only relevant for liquid public markets asset classes, namely Global Equities, Global Fixed Income and Risk Mitigation strategies.
2. The relevant Public Markets PIO monitors allocation to the public market asset classes.
3. Upon the previously mentioned thresholds being breached, the PIO initiates a discussion with the CIO.
4. The CIO and PIO agree upon the targets to which the portfolio needs to be rebalanced.
5. The PIO prepares and sends the memo for CIO approval to proceed with the rebalancing trades.
6. Given the size of the rebalancing required, the PIO can use multiple tranches over approximately a 4-week period depending on market conditions and liquidity.



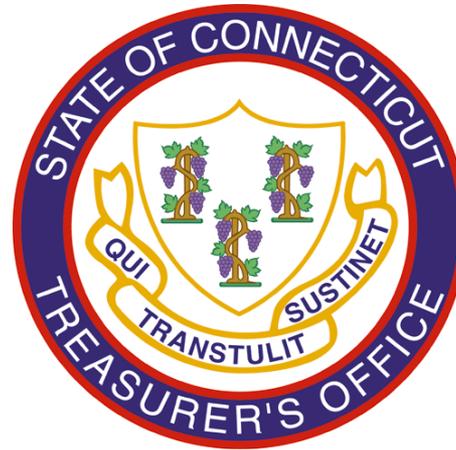
Risk-Off Scenario would suggest rebalancing to get Thematic Exposures back to Target

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HYPOTHETICAL RISK-OFF SCENARIO

Global Equity	-20%
Core Fixed Income	+10%
Non-Core Fixed Income	-10%
Risk Mitigating	+15%

Asset Class	Current Allocation	Market Value (\$M)	Scenario Market Value (\$M)	Scenario Allocation	Hypothetical Trades (\$M)	Post Rebalance Allocation
Global Equity	47%	\$ 24,211	\$ 19,369	41%	\$ 2,000	45%
Core Fixed Income	15%	\$ 7,694	\$ 8,463	18%	\$ (1,200)	15%
Non-Core Fixed Income	6%	\$ 3,238	\$ 2,914	6%	\$ -	6%
Risk Mitigating	5%	\$ 2,505	\$ 2,880	6%	\$ (800)	4%
Private Equity	12%	\$ 5,950	\$ 5,950	12%	\$ -	12%
Private Credit	4%	\$ 2,102	\$ 2,102	4%	\$ -	4%
Real Estate	7%	\$ 3,766	\$ 3,766	8%	\$ -	8%
Infrastructure	3%	\$ 1,388	\$ 1,388	3%	\$ -	3%
Liquidity	2%	\$ 795	\$ 795	2%	\$ -	2%
		\$ 51,649	\$ 47,628			



Overview of 2024 Private Markets Pacing Plans

January 10, 2024



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Infrastructure/Natural Resources Pacing Plan Summary	7
Real Estate Pacing Plan Summary	8
Private Credit Pacing Plan Summary	9
Private Equity Pacing Plan Summary	10
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- Pacing plans are developed to support the achievement of the long-term strategic asset allocation targets for the CRPTF’s Infrastructure/Natural Resources (“INR”), Real Estate (“RE”), Private Credit (“PC”), and Private Equity (“PE”) portfolios.
- The pacing plans are developed annually and utilize various inputs (see Appendix) to target annual commitment levels and portfolio objectives consistent with the Investment Policy Statement for each asset class.
- Pension Funds Management staff worked with Albourne (INR & RE), and Hamilton Lane (PC & PE) to develop 2024 pacing plans with consistent baseline assumptions for the CPRTF, including:
 - Total CRPTF actual value of \$49.3 million as of October 31, 2023.
 - A range of net growth rates for the CRPTF total value of 3%, 4%, and 5% per annum used for scenario development
 - Annual net growth rate assumptions are intended to capture the estimated *net* impact of contributions, distributions, and investment returns
- The 2024 pacing plans identify targeted commitment levels for each asset class as shown below and more fully described in this overview.

2024 Pacing Plan Targets					
(\$Millions)	INR	RE	PC	PE	Total
Commitments	\$650	\$1,100	\$2,000	\$1,700	\$5,450

Targeted commitments shown based on 4% CRPTF net growth rate.

Consolidated Private Markets Pacing Plans

Private Markets Pacing Plan Summary											
(\$Millions)	2023E	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P
Commitments											
INR	\$825	\$650	\$550	\$550	\$400	\$400	\$400	\$400	\$400	\$400	\$400
RE	\$500	\$1,100	\$1,130	\$970	\$550	\$600	\$680	\$680	\$680	\$740	\$800
PC	\$810	\$2,000	\$1,500	\$1,150	\$1,150	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
PE	\$1,925	\$1,700	\$1,600	\$1,800	\$1,800	\$1,700	\$1,700	\$1,700	\$1,700	\$1,700	\$1,700
Total Commitments	\$4,060	\$5,450	\$4,780	\$4,470	\$3,900	\$3,900	\$3,980	\$3,980	\$3,980	\$4,040	\$4,100
Net Cash Flow											
INR	(\$415)	(\$608)	(\$575)	(\$373)	\$40	\$174	\$311	\$269	\$229	\$280	\$200
RE	(\$269)	(\$199)	(\$194)	(\$228)	(\$160)	(\$65)	\$102	\$228	\$313	\$376	\$376
PC	(\$651)	(\$766)	(\$436)	(\$428)	(\$138)	\$204	\$430	\$597	\$652	\$674	\$668
PE	(\$190)	(\$48)	(\$16)	\$301	\$364	\$514	\$656	\$870	\$1,073	\$1,207	\$1,317
Total Net Cash Flow	(\$1,525)	(\$1,621)	(\$1,221)	(\$727)	\$107	\$827	\$1,499	\$1,964	\$2,267	\$2,537	\$2,560
Net Asset Value											
INR	\$1,372	\$2,148	\$2,977	\$3,689	\$4,049	\$4,288	\$4,399	\$4,538	\$4,742	\$4,894	\$5,139
RE	\$3,591	\$4,050	\$4,571	\$5,175	\$5,773	\$6,194	\$6,524	\$6,764	\$6,928	\$7,054	\$7,180
PC	\$2,286	\$3,431	\$4,212	\$5,102	\$5,803	\$6,226	\$6,473	\$6,572	\$6,611	\$6,624	\$6,610
PE	\$5,820	\$6,589	\$7,423	\$8,046	\$8,700	\$9,290	\$9,821	\$10,221	\$10,484	\$10,656	\$10,751
Total Net Asset Value	\$13,068	\$16,218	\$19,183	\$22,012	\$24,325	\$25,998	\$27,217	\$28,095	\$28,765	\$29,229	\$29,680
Unfunded Commitments											
INR	\$1,532	\$1,402	\$1,160	\$1,017	\$855	\$823	\$823	\$817	\$808	\$803	\$802
RE	\$1,720	\$2,004	\$2,059	\$1,876	\$1,385	\$1,162	\$1,128	\$1,145	\$1,186	\$1,259	\$1,380
PC	\$2,524	\$3,129	\$3,204	\$2,819	\$2,474	\$2,334	\$2,270	\$2,248	\$2,240	\$2,238	\$2,236
PE	\$3,793	\$4,361	\$4,451	\$4,700	\$4,670	\$4,550	\$4,480	\$4,428	\$4,401	\$4,377	\$4,369
Total Unfunded	\$9,568	\$10,896	\$10,874	\$10,413	\$9,384	\$8,869	\$8,701	\$8,638	\$8,636	\$8,677	\$8,788

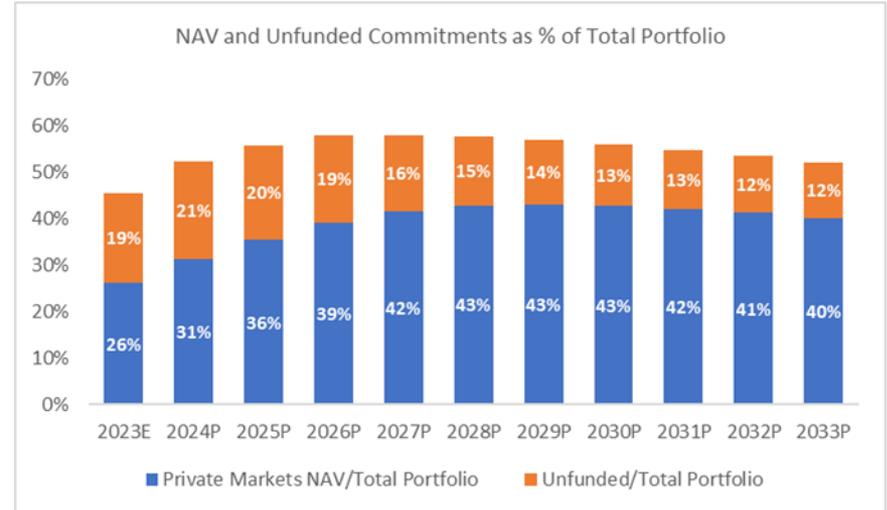
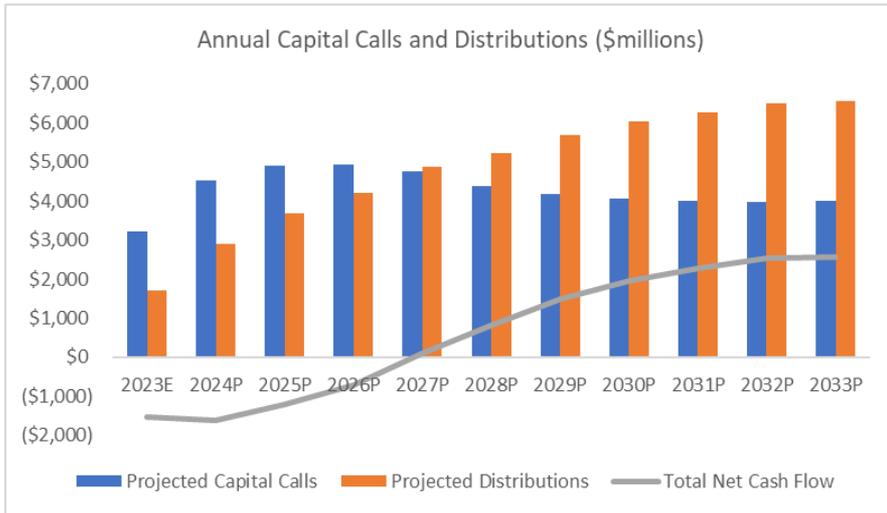
Targeted commitments and pacing plan outputs shown based on 4% CRPTF net growth rate.



Projected Capital Calls and Distributions

Projections Based on 4% Net Growth Rate Assumptions

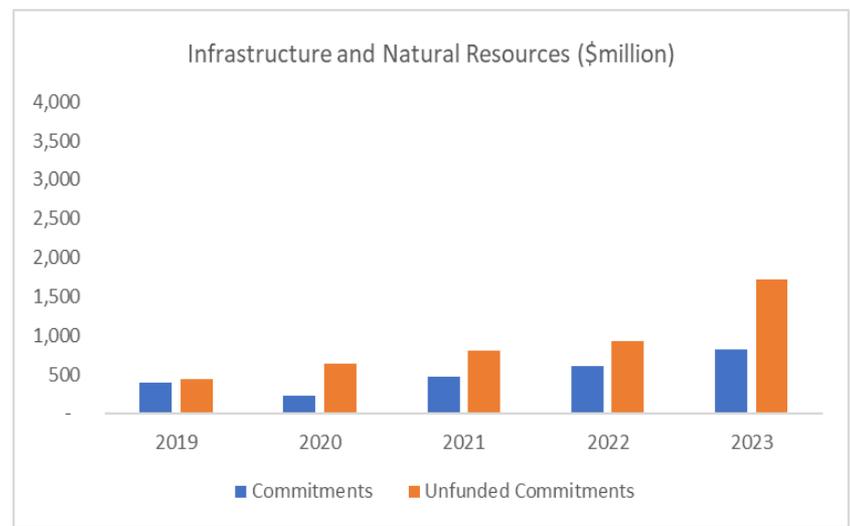
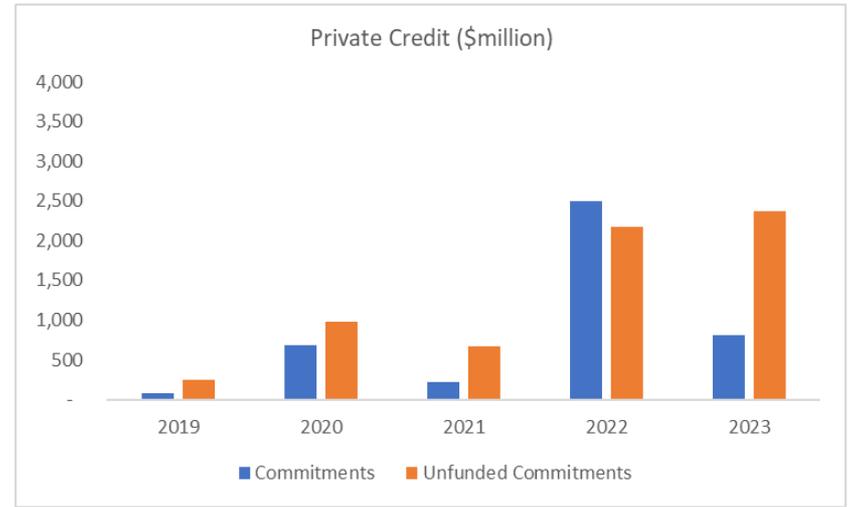
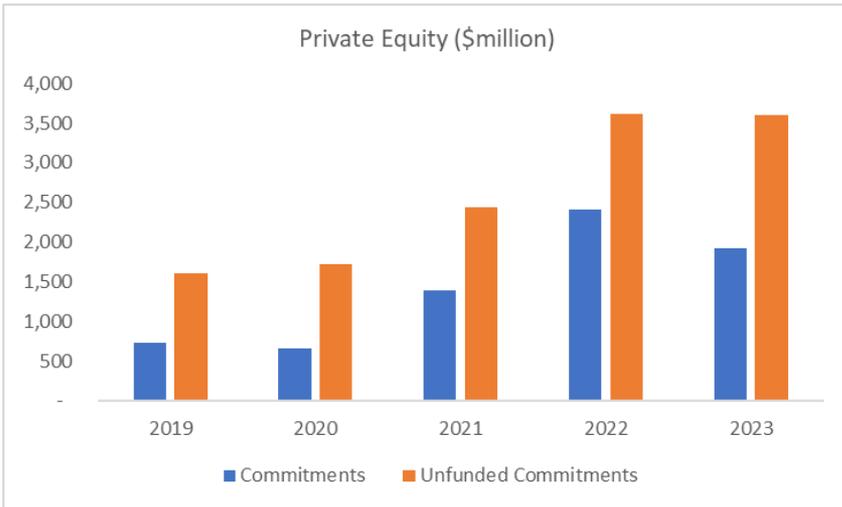
Capital Calls and Distributions											
(\$Millions)	2023E	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P
Projected Capital Calls	\$3,224	\$4,528	\$4,896	\$4,937	\$4,756	\$4,389	\$4,177	\$4,063	\$3,998	\$3,980	\$4,003
Projected Distributions	\$1,699	\$2,907	\$3,675	\$4,210	\$4,863	\$5,217	\$5,676	\$6,027	\$6,265	\$6,517	\$6,563
Total Net Cash Flow	(\$1,525)	(\$1,621)	(\$1,221)	(\$727)	\$107	\$827	\$1,499	\$1,964	\$2,267	\$2,537	\$2,560



Asset Allocation Level											
Net CRPTF Growth Rate	2023E	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P
3%	26.2%	31.6%	36.2%	40.3%	43.1%	44.6%	45.0%	45.0%	44.7%	44.1%	43.5%
4%	26.2%	31.3%	35.5%	39.2%	41.7%	42.9%	43.1%	42.8%	42.1%	41.3%	40.2%
5%	26.1%	31.0%	35.1%	38.5%	40.7%	41.7%	41.8%	41.3%	40.5%	39.4%	38.3%



Commitments and Unfunded Commitments



Commitments represent commitment activities during the year.
Unfunded commitments represent unfunded commitments as of year-end.



2024 Infrastructure and Natural Resources Pacing Plan

- Developed to achieve INR’s strategic asset allocation target of 7% by year-end 2027.
 - Includes sub-strategy risk target goals for Core Infrastructure 30-50%, Non-Core Infrastructure 35-55% and Natural Resources 10%-20%.
- 2023 investments include \$200m of investment recommended to IAC in November and expected to close in January.
- Targeted 2024 focus on core infrastructure investments, given the significant non-core commitments in 2022 and 2023 with unfunded commitments expected to be invested over the next few years.
- Investments will continue to be through highly selective additions of new managers and the potential expansion of existing manager mandates.

Infrastructure/Natural Resources Pacing Plan Summary											
(\$Millions)	2023E	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P
Commitments											
Non-Core Infrastructure	\$700	\$100	\$100	\$250	\$300	\$300	\$300	\$300	\$300	\$300	\$300
Core Infrastructure	\$0	\$400	\$300	\$200	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Natural Resources	\$125	\$150	\$150	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
Total Commitments	\$825	\$650	\$550	\$550	\$400						
Capital Calls	\$498	\$785	\$814	\$703	\$542	\$437	\$402	\$411	\$418	\$415	\$412
Distributions	\$83	\$177	\$239	\$330	\$582	\$611	\$713	\$680	\$647	\$695	\$612
Net Cash Flow	(\$415)	(\$608)	(\$575)	(\$373)	\$40	\$174	\$311	\$269	\$229	\$280	\$200
Net Asset Value	\$1,372	\$2,148	\$2,977	\$3,689	\$4,049	\$4,288	\$4,399	\$4,538	\$4,742	\$4,894	\$5,139
Unfunded Commitments	\$1,532	\$1,402	\$1,160	\$1,017	\$855	\$823	\$823	\$817	\$808	\$803	\$802
Infrastructure/Natural Resources Projected Asset Allocation Level											
Net CRPTF Growth Rate											
3%	2.7%	4.2%	5.6%	6.8%	7.2%	7.4%	7.3%	7.3%	7.4%	7.4%	7.5%
4%	2.7%	4.1%	5.5%	6.5%	6.9%	7.0%	6.9%	6.9%	6.9%	6.9%	6.9%
5%	2.7%	4.1%	5.5%	6.5%	6.9%	7.0%	6.9%	6.9%	6.9%	6.9%	6.9%



2024 Real Estate Pacing Plan

- Developed to achieve Real Estate’s strategic asset allocation target of 10% by year-end 2027.
 - Includes sub-strategy risk target goals of Core 30-50% and Non-core: 50-70%.
- 2023 investments include \$125m investment presented to IAC in November and expected to close in January.
- Targeted 2024 focus continues to be non-core investments given the below target allocation through highly selective additions of new managers and the potential expansion of existing manager mandates.
- Pacing targets assume core, open-end fund redemptions of approximately \$180-280m per year, over the next three years.

Real Estate Pacing Plan Summary											
(\$Millions)	2023E	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P
Commitments											
Non-Core	\$500	\$950	\$950	\$770	\$350	\$500	\$580	\$580	\$580	\$640	\$740
Core	\$0	\$150	\$180	\$200	\$200	\$100	\$100	\$100	\$100	\$100	\$60
Total Commitments	\$500	\$1,100	\$1,130	\$970	\$550	\$600	\$680	\$680	\$680	\$740	\$800
Capital Calls	\$818	\$817	\$978	\$1,058	\$964	\$827	\$741	\$684	\$650	\$652	\$688
Distributions	\$549	\$618	\$784	\$830	\$804	\$762	\$843	\$912	\$963	\$1,028	\$1,064
Net Cash Flow	(\$269)	(\$199)	(\$194)	(\$228)	(\$160)	(\$65)	\$102	\$228	\$313	\$376	\$376
Net Asset Value	\$3,591	\$4,050	\$4,571	\$5,175	\$5,773	\$6,194	\$6,524	\$6,764	\$6,928	\$7,054	\$7,180
Unfunded Commitments	\$1,720	\$2,004	\$2,059	\$1,876	\$1,385	\$1,162	\$1,128	\$1,145	\$1,186	\$1,259	\$1,380
Real Estate Projected Asset Allocation Level											
Net CRPTF Growth Rate											
3%	7.2%	7.8%	8.5%	9.3%	9.9%	10.2%	10.2%	10.1%	10.1%	10.0%	10.0%
4%	7.2%	7.8%	8.4%	9.2%	9.8%	10.2%	10.3%	10.2%	10.1%	9.9%	9.7%
5%	7.1%	7.7%	8.4%	9.1%	9.8%	10.3%	10.5%	10.4%	10.3%	10.1%	9.9%

2024 Private Credit Pacing Plan

- Developed to achieve Private Credit’s strategic asset allocation target of 10%.
 - Includes sub-strategy targeted allocations in alignment with IPS exposure ranges established for Senior (30% to 70%), Mezzanine (0% to 30%), Special Situations (0% to 20%), and Distressed (0% to 20%).
- Targeted 2024 commitments of \$2 billion include \$0.6 billion of pending commitments to ICG that were approved by Treasurer Russell in 2023 but will close in 2024.
- 2024 strategic initiatives include continued build out of Special Situations and Senior exposure, primarily through highly selective additions of new managers and the potential expansion of existing manager mandates.

	Private Credit Pacing Plan Summary										
(\$Millions)	2023E	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P
Commitments											
Primary Strategies	\$810	\$2,000	\$1,400	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Co-Investment			\$100	\$150	\$150	\$200	\$200	\$200	\$200	\$200	\$200
Total Commitments	\$810	\$2,000	\$1,500	\$1,150	\$1,150	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200	\$1,200
Capital Calls	\$858	\$1,394	\$1,425	\$1,535	\$1,471	\$1,339	\$1,264	\$1,221	\$1,204	\$1,199	\$1,198
Distributions	\$207	\$628	\$990	\$1,107	\$1,334	\$1,544	\$1,694	\$1,818	\$1,857	\$1,873	\$1,865
Net Cash Flow	(\$651)	(\$766)	(\$436)	(\$428)	(\$138)	\$204	\$430	\$597	\$652	\$674	\$668
Net Asset Value	\$2,286	\$3,431	\$4,212	\$5,102	\$5,803	\$6,226	\$6,473	\$6,572	\$6,611	\$6,624	\$6,610
Unfunded Comittments	\$2,524	\$3,129	\$3,204	\$2,819	\$2,474	\$2,334	\$2,270	\$2,248	\$2,240	\$2,238	\$2,236
	Private Credit Projected Asset Allocation Level										
Net CRPTF Growth Rate											
3%	4.6%	6.7%	8.0%	9.4%	10.4%	10.8%	10.9%	10.8%	10.5%	10.2%	9.9%
4%	4.6%	6.6%	7.8%	9.1%	10.0%	10.3%	10.3%	10.1%	9.7%	9.4%	9.0%
5%	4.6%	6.6%	7.7%	8.9%	9.6%	9.8%	9.7%	9.4%	9.0%	8.6%	8.2%

2024 Private Equity Pacing Plan

- Developed to achieve Private Equity strategic asset allocation target of 15%.
 - Pacing plan includes sub-strategy targeted allocations in alignment with IPS exposure ranges established for Corporate Finance (70% to 100%) and Venture Capital (0% to 30%).
- 2024 strategic initiatives include:
 - Continued top-grading of existing manager roster, with a focus on building out additional Small/Mid-Market and Growth Equity exposure, and,
 - Developing a customized solution to decrease the portfolio line items and administrative needs while simultaneously creating the opportunity to capture attractive secondary opportunities, including GP-led, continuation vehicle investments.

Private Equity Pacing Plan Summary											
(\$Millions)	2023E	2024P	2025P	2026P	2027P	2028P	2029P	2030P	2031P	2032P	2033P
Commitments											
Primary Strategies	\$1,925	\$1,700	\$1,600	\$1,600	\$1,600	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Co-Investment				\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200
Total Commitments	\$1,925	\$1,700	\$1,600	\$1,800	\$1,800	\$1,700	\$1,700	\$1,700	\$1,700	\$1,700	\$1,700
Capital Calls	\$1,050	\$1,532	\$1,678	\$1,641	\$1,778	\$1,786	\$1,770	\$1,747	\$1,726	\$1,714	\$1,705
Distributions	\$860	\$1,484	\$1,662	\$1,943	\$2,143	\$2,300	\$2,426	\$2,617	\$2,799	\$2,921	\$3,022
Net Cash Flow	(\$190)	(\$48)	(\$16)	\$301	\$364	\$514	\$656	\$870	\$1,073	\$1,207	\$1,317
Net Asset Value	\$5,820	\$6,589	\$7,423	\$8,046	\$8,700	\$9,290	\$9,821	\$10,221	\$10,484	\$10,656	\$10,751
Unfunded Comittments	\$3,793	\$4,361	\$4,451	\$4,700	\$4,670	\$4,550	\$4,480	\$4,428	\$4,401	\$4,377	\$4,369
Private Equity Projected Asset Allocation Level											
Net CRPTF Growth Rate											
3%	11.7%	12.9%	14.1%	14.8%	15.6%	16.2%	16.6%	16.8%	16.7%	16.5%	16.1%
4%	11.7%	12.8%	13.8%	14.4%	15.0%	15.4%	15.6%	15.6%	15.4%	15.1%	14.6%
5%	11.7%	12.6%	13.5%	14.0%	14.4%	14.6%	14.7%	14.6%	14.3%	13.8%	13.3%

- The CRPTF private markets pacing plans are developed utilizing models that incorporate numerous inputs, including:
 - Strategic asset allocation targets and ranges
 - The current overall value of the CRPTF and a range of projected, annual net growth rates for the CRPTF total value
 - The annual net growth rate assumptions are intended to capture the estimated net impact of contributions, distributions, and investment returns
 - Existing portfolio composition
 - Historical cash flow profiles for each asset/sub-asset class
 - Projected capital calls, distributions, and net asset values (“NAV”) for each asset/sub-asset class



Connecticut Retirement Plans and Trust Funds

Pacing Plan– Private Credit Fund Portfolio

December 2023

Private Credit Fund Commitment Pacing

The Horizon Model is a Hamilton Lane proprietary tool that uses existing portfolio information coupled with future allocation targets to create a quantitative future investment plan

- Model uses a formulaic approach to project value and future cash flows
- The pacing model takes into account Connecticut's historical Private Credit Fund commitments
- The table below summarizes the input assumptions used to forecast cash flows and market values

Horizon Model Pacing Assumptions	
Connecticut Total Plan Assets ¹	\$49.3 billion
Net Plan Growth Rate	3.0%; 4.0%; 5.0%
Private Credit Fund as % of Plan ²	3.9%
Target Allocation to Private Credit Fund	10.0%
Private Credit Fund Boundary	5.0% - 15.0%

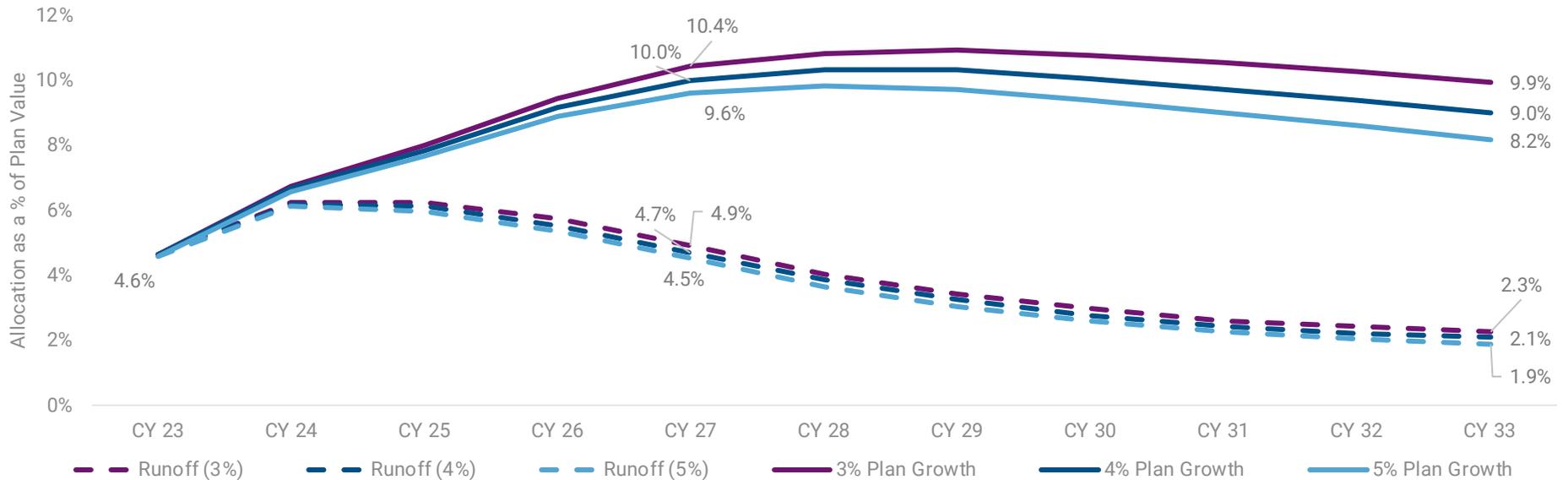
See endnotes in the Appendix

¹ As of 10/31/2023

² Uses 6/30/2023 CRPTF PC NAV and CRPTF Total Plan Assets as of 10/31/2023.

Private Credit Fund Pacing Scenarios

CY 2024 Pacing - \$2.0B¹



CRPTF PCF Horizon Model - \$2,000M CY 2024

(\$ in millions)	CY 23 ²	CY 24	CY 25	CY 26	CY 27	CY 28	CY 29	CY 30	CY 31	CY 32	CY 33
Commitments											
Fund Commitments	\$5,075.3	\$2,000.0	\$1,400.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0
Direct Co-Investment Program*	-	-	\$100.0	\$150.0	\$150.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0
Period Cash Flow											
Paid-in Capital	\$857.6	\$1,394.2	\$1,425.4	\$1,534.6	\$1,471.4	\$1,339.3	\$1,264.3	\$1,221.2	\$1,204.1	\$1,199.3	\$1,197.8
Distributions	\$207.1	\$627.9	\$989.9	\$1,106.9	\$1,333.9	\$1,543.6	\$1,693.9	\$1,818.4	\$1,856.5	\$1,872.8	\$1,865.3
Net Cash Flow	(\$650.5)	(\$766.3)	(\$435.5)	(\$427.7)	(\$137.5)	\$204.3	\$429.6	\$597.2	\$652.4	\$673.6	\$667.5
Unfunded	\$2,523.7	\$3,129.4	\$3,129.6	\$2,845.2	\$2,514.5	\$2,339.0	\$2,269.9	\$2,248.6	\$2,242.1	\$2,238.7	\$2,236.3

- CY 2024 commitments are elevated as a result of under allocation in CY 2023 versus target, coupled with the goal of achieving interim PCF targets set by CRPTF, as well as a 10% allocation to PCF by CY 2027

¹ CY 23 projected total CRPTF plan value (denominator) applies two-twelfths of the annual growth rates (3%, 4%, 5%) to the 10/31/2023 value as provided by CRPTF to achieve projected 12/31/2023 value.

² Commitment amount in CY 23 column represents total since inception through year-end 2023 (expected). CY 23 cash flows represent 1H 2023 real cash flows plus 2H 2023 projected cash flows.

*Assumes \$320M deployed over 2024 out of the existing commitment (HarbourVest)

A faint, light blue graphic of a globe is positioned on the left side of the slide. It consists of a grid of squares forming the latitude and longitude lines of a sphere, rendered in a perspective view.

Private Credit Fund Horizon Model Scenarios

Private Credit Fund Horizon Model Output

CRPTF PCF Horizon Model - Runoff											
(\$ in millions)	CY 23 ¹	CY 24	CY 25	CY 26	CY 27	CY 28	CY 29	CY 30	CY 31	CY 32	CY 33
Commitments											
Fund Commitments	\$5,075.3	-	-	-	-	-	-	-	-	-	-
Direct Co-Investment Program*	-	-	-	-	-	-	-	-	-	-	-
Period Cash Flow											
Paid-in Capital	\$857.6	\$1,150.1	\$689.9	\$383.2	\$164.5	\$63.2	\$23.1	\$9.0	\$5.1	\$3.2	\$1.9
Distributions	\$207.1	\$622.0	\$924.1	\$912.6	\$867.6	\$769.7	\$573.9	\$463.4	\$364.3	\$288.8	\$211.1
Net Cash Flow	(\$650.5)	(\$528.2)	\$234.2	\$529.4	\$703.1	\$706.5	\$550.7	\$454.4	\$359.2	\$285.5	\$209.1
Cumulative Cash Flow											
Paid-in Capital	\$2,026.5	\$3,176.6	\$3,866.5	\$4,249.8	\$4,414.3	\$4,477.4	\$4,500.6	\$4,509.6	\$4,514.7	\$4,517.9	\$4,519.8
Distributions	\$531.8	\$1,153.8	\$2,077.9	\$2,990.5	\$3,858.1	\$4,627.7	\$5,201.6	\$5,665.0	\$6,029.3	\$6,318.0	\$6,529.1
Net Cash Flow	(\$1,494.7)	(\$2,022.9)	(\$1,788.7)	(\$1,259.3)	(\$556.2)	\$150.3	\$701.0	\$1,155.4	\$1,514.6	\$1,800.2	\$2,009.3
PCF Portfolio											
PCF Market Value	\$2,285.7	\$3,192.2	\$3,273.7	\$3,090.8	\$2,724.7	\$2,317.2	\$2,030.2	\$1,796.2	\$1,639.0	\$1,556.8	\$1,518.1
Unfunded	\$2,523.7	\$1,373.5	\$683.6	\$300.4	\$111.4	\$48.2	\$25.1	\$16.1	\$9.6	\$6.3	\$3.7
3.00% Plan Growth	4.6%	6.3%	6.2%	5.7%	4.9%	4.0%	3.4%	2.9%	2.6%	2.4%	2.3%
4.00% Plan Growth	4.6%	6.2%	6.1%	5.5%	4.7%	3.8%	3.2%	2.7%	2.4%	2.2%	2.1%
5.00% Plan Growth	4.6%	6.1%	6.0%	5.4%	4.5%	3.6%	3.0%	2.6%	2.2%	2.0%	1.9%

CRPTF PCF Horizon Model - \$2,000M CY 2024											
(\$ in millions)	CY 23 ¹	CY 24	CY 25	CY 26	CY 27	CY 28	CY 29	CY 30	CY 31	CY 32	CY 33
Commitments											
Fund Commitments	\$5,075.3	\$2,000.0	\$1,400.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0	\$1,000.0
Direct Co-Investment Program*	-	-	\$100.0	\$150.0	\$150.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0
Period Cash Flow											
Paid-in Capital	\$857.6	\$1,394.2	\$1,425.4	\$1,534.6	\$1,471.4	\$1,339.3	\$1,264.3	\$1,221.2	\$1,204.1	\$1,199.3	\$1,197.8
Distributions	\$207.1	\$627.9	\$989.9	\$1,106.9	\$1,333.9	\$1,543.6	\$1,693.9	\$1,818.4	\$1,856.5	\$1,872.8	\$1,865.3
Net Cash Flow	(\$650.5)	(\$766.3)	(\$435.5)	(\$427.7)	(\$137.5)	\$204.3	\$429.6	\$597.2	\$652.4	\$673.6	\$667.5
Cumulative Cash Flow											
Paid-in Capital	\$2,026.5	\$3,420.7	\$4,846.1	\$6,380.7	\$7,852.1	\$9,191.5	\$10,455.8	\$11,677.0	\$12,881.1	\$14,080.4	\$15,278.2
Distributions	\$531.8	\$1,159.7	\$2,149.6	\$3,256.5	\$4,590.4	\$6,134.0	\$7,827.9	\$9,646.3	\$11,502.8	\$13,375.6	\$15,240.9
Net Cash Flow	(\$1,494.7)	(\$2,261.0)	(\$2,696.5)	(\$3,124.3)	(\$3,261.7)	(\$3,057.5)	(\$2,627.9)	(\$2,030.7)	(\$1,378.3)	(\$704.8)	(\$37.3)
PCF Portfolio											
PCF Market Value	\$2,285.7	\$3,430.5	\$4,212.0	\$5,101.8	\$5,803.2	\$6,225.8	\$6,473.3	\$6,572.3	\$6,610.8	\$6,624.4	\$6,610.2
Unfunded	\$2,523.7	\$3,129.4	\$3,204.1	\$2,819.4	\$2,473.5	\$2,334.2	\$2,269.9	\$2,248.1	\$2,240.4	\$2,238.0	\$2,236.3
3.00% Plan Growth	4.6%	6.7%	8.0%	9.4%	10.4%	10.8%	10.9%	10.8%	10.5%	10.2%	9.9%
4.00% Plan Growth	4.6%	6.6%	7.8%	9.1%	10.0%	10.3%	10.3%	10.1%	9.7%	9.4%	9.0%
5.00% Plan Growth	4.6%	6.6%	7.7%	8.9%	9.6%	9.8%	9.7%	9.4%	9.0%	8.6%	8.2%

¹ Commitment amount in CY 23 column represents total since inception through year-end 2023 (expected). CY 23 cash flows represent 1H 2023 real cash flows plus 2H 2023 projected cash flows. CY 23 projected total CRPTF plan value (denominator) applies two-twelfths of the annual growth rates (3%, 4%, 5%) to the 10/31/2023 value as provided by CRPTF to achieve projected 12/31/2023 values

¹ HarbourVest commitments included in the CY 23 Fund Commitments total

*Assumes \$320M deployed over 2024, out of the existing commitment (HarbourVest)

Building the Portfolio

- Co-Investments are expected to be accessed through existing customized CRPTF programs
 - The respective 'Pacing Target' ranges are intended to capture the expected deployment from the existing programs during CY 2024
 - The 'Pacing Target' ranges are not a recommendation for additional incremental commitments in CY 2024
 - Recently approved, but pending close, commitments to ICG funds will be allocated from the CY 2024 pacing targets

Long-Term Portfolio Targets - By Structure

Strategy	Current NAV Exposure ¹	Current Total Exposure ^{1,2}	Long-Term Portfolio Target ^{2,3}	Target Commitments	Target Commitment Sizes (\$M)	Pacing Target (\$M)
Primaries	86%	82%	80-90%	6-10	\$200-\$350	\$1,900-\$2,100
Co-Investments ⁶	14%	18%	10-20%	0-1	\$0-\$320	\$0-\$320

Long-Term Portfolio Targets - By Strategy

Strategy ⁴	Current NAV Exposure ¹	Current Total Exposure ^{1,2}	Long-Term Portfolio Target ^{2,3}	Target Commitments	Target Commitment Sizes (\$M)	Pacing Target (\$M)
Senior ⁴	66%	70%	50-60%	5-7	\$150-\$225	\$1,000-\$1,200
Mezzanine	6%	9%	10-20%	1-2	\$200-\$300	\$200-\$400
Special Situations	22%	17%	20-30%	1-3	\$150-\$400	\$400-\$600
Distressed	6%	4%	10-20%	1-2	\$200-\$300	\$200-\$400

Long-Term Portfolio Targets - By Geography

Geography	Current Exposure ⁵	Long-Term Portfolio Target ⁵	Target Commitments	Target Commitment Sizes (\$M)	Pacing Target (\$M)
North America	81%	60-70%	4-8	\$150-\$300	\$1,200-\$1,400
Western Europe	10%	20-30%	1-3	\$100-\$275	\$400-\$600
Rest of World	9%	0-10%	0-2	\$0-\$100	\$0-\$200

Footnotes located on Endnotes & Disclosures page

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¹As of 6/30/2023. Totals may not sum to 100% due to rounding.

²Total Exposure is equal to Remaining Net Asset Value plus Unfunded Commitment. Total exposure does not account for planned transfer of legacy ICG commitments from PIF to PCF.

³Long-Term Portfolio Target measured by Total Exposure.

⁴Senior exposure includes HarbourVest CT Vehicle, previously grouped under Co-Investments

⁵Current Exposure and Long-Term Portfolio Target by Geography refer to NAV exposure at the underlying company-level (CRPTF's share of a portfolio company's remaining NAV).

⁶Co-Investment exposure to be largely accessed through a vehicle/SMA structure



Connecticut Retirement Plans and Trust Funds

Pacing Plan– Private Investment Fund Portfolio

December 2023

Private Investment Fund Commitment Pacing

The Horizon Model is a Hamilton Lane proprietary tool that uses existing portfolio information coupled with future allocation targets to create a quantitative future investment plan

- Model uses a formulaic approach to project value and future cash flows
- The pacing model takes into account Connecticut's historical Private Investment Fund commitments
- The table below summarizes the input assumptions used to forecast cash flows and market values

Horizon Model Pacing Assumptions	
Connecticut Total Plan Assets ¹	\$49.3 billion
Net Plan Growth Rate	3.0%; 4.0%; 5.0%
Private Investment Fund as % of Plan ²	11.0%
Target Allocation to Private Investment Fund	15.0%
Private Investment Fund Boundary	10.0% - 20.0%

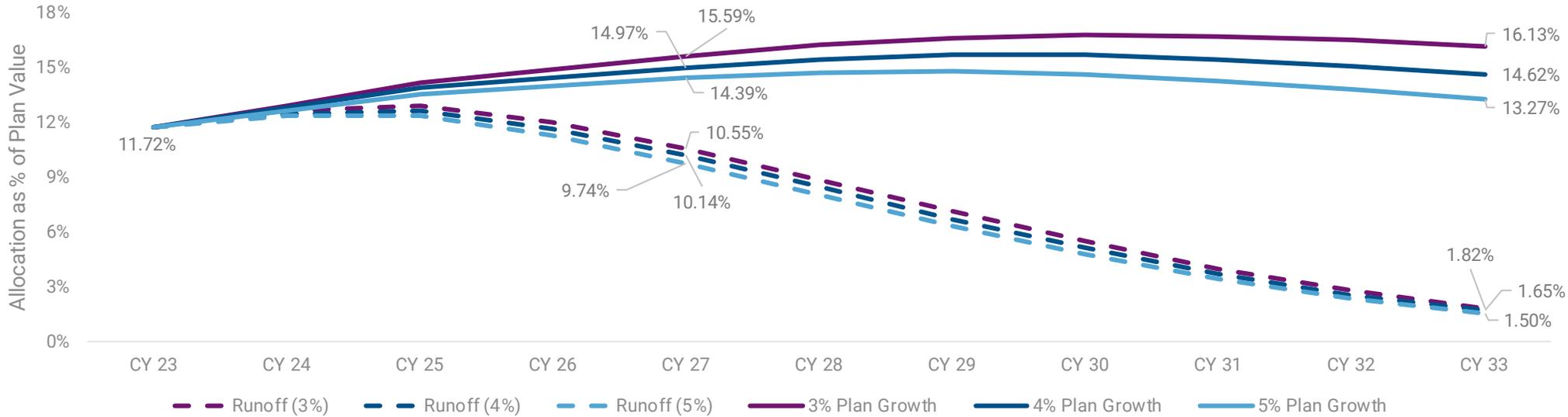
See endnotes in the Appendix

¹ As of 10/31/2023

² Uses 6/30/2023 CRPTF PE NAV and CRPTF Total Plan Assets as of 10/31/2023. Does not include historical ICG commitments which are to be moved to PCF.

Private Investment Fund Pacing Scenarios

CY 2024 Pacing - \$1.7b¹



CRPTF PIF Horizon Model - \$1,700M CY 2024

(\$ in millions)	CY 23 ²	CY 24	CY 25	CY 26	CY 27	CY 28	CY 29	CY 30	CY 31	CY 32	CY 33
Commitments											
Fund Commitments	\$21,212.3	\$1,700.0	\$1,600.0	\$1,600.0	\$1,600.0	\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0
Direct Co-Investment Program*	-	-	-	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0
Period Cash Flow											
Paid-in Capital	\$1,050.1	\$1,531.8	\$1,678.3	\$1,641.2	\$1,778.3	\$1,786.0	\$1,770.1	\$1,746.8	\$1,726.2	\$1,713.5	\$1,705.2
Distributions	\$859.9	\$1,483.9	\$1,662.2	\$1,942.6	\$2,142.7	\$2,299.9	\$2,426.2	\$2,617.0	\$2,798.7	\$2,920.9	\$3,021.8
Net Cash Flow	(\$190.1)	(\$47.9)	(\$16.1)	\$301.4	\$364.4	\$513.8	\$656.1	\$870.1	\$1,072.5	\$1,207.5	\$1,316.6
Unfunded	\$3,792.6	\$4,360.8	\$4,451.3	\$4,700.2	\$4,670.3	\$4,550.1	\$4,479.7	\$4,427.5	\$4,401.2	\$4,377.3	\$4,369.3

¹ CY 23 projected total CRPTF plan value (denominator) applies two-twelfths of the annual growth rates (3%, 4%, 5%) to the 10/31/2023 value as provided by CRPTF to achieve projected 12/31/2023 value.

² Commitment amount in CY 23 column represents total since inception through year-end 2023 (expected). CY 23 cash flows represent 1H 2023 real cash flows plus 2H 2023 projected cash flows.

*Assumes \$300M deployed in 2024 and remaining \$70M deployed in 2025 for a total of 750M since inception (HarbourVest).



Private Investment Fund Horizon Model Scenarios

Private Investment Fund Horizon Model Output

CRPTF PIF Horizon Model - Runoff											
(\$ in millions)	CY 23 ¹	CY 24	CY 25	CY 26	CY 27	CY 28	CY 29	CY 30	CY 31	CY 32	CY 33
Commitments											
Fund Commitments	\$21,212.3	-	-	-	-	-	-	-	-	-	-
Direct Co-Investment Program*	-	-	-	-	-	-	-	-	-	-	-
Period Cash Flow											
Paid-in Capital	\$1,050.1	\$1,354.7	\$1,136.8	\$704.5	\$454.8	\$270.0	\$155.1	\$90.7	\$56.4	\$35.4	\$21.2
Distributions	\$859.9	\$1,480.5	\$1,631.0	\$1,849.1	\$1,906.6	\$1,818.7	\$1,647.1	\$1,469.7	\$1,269.7	\$1,028.9	\$789.7
Net Cash Flow	(\$190.1)	\$125.8	\$494.2	\$1,144.6	\$1,451.8	\$1,548.6	\$1,492.0	\$1,379.0	\$1,213.4	\$993.5	\$768.5
Cumulative Cash Flow											
Paid-in Capital	\$12,280.9	\$13,635.6	\$14,772.5	\$15,477.0	\$15,931.8	\$16,201.8	\$16,356.9	\$16,447.6	\$16,504.0	\$16,539.3	\$16,560.6
Distributions	\$13,477.9	\$14,958.5	\$16,589.5	\$18,438.6	\$20,345.2	\$22,163.8	\$23,811.0	\$25,280.7	\$26,550.4	\$27,579.3	\$28,369.0
Net Cash Flow	\$1,197.0	\$1,322.8	\$1,817.0	\$2,961.6	\$4,413.4	\$5,962.0	\$7,454.1	\$8,833.1	\$10,046.4	\$11,039.9	\$11,808.4
PIF Portfolio											
PIF Market Value	\$5,819.7	\$6,418.8	\$6,754.6	\$6,495.7	\$5,889.2	\$5,080.4	\$4,203.7	\$3,322.9	\$2,494.8	\$1,784.4	\$1,214.0
Unfunded	\$3,792.6	\$2,837.9	\$1,869.8	\$1,255.4	\$749.0	\$444.9	\$289.5	\$193.3	\$137.0	\$91.1	\$67.1
3.00% Plan Growth	11.7%	12.6%	12.8%	12.0%	10.6%	8.8%	7.1%	5.4%	4.0%	2.8%	1.8%
4.00% Plan Growth	11.7%	12.4%	12.6%	11.6%	10.1%	8.4%	6.7%	5.1%	3.7%	2.5%	1.7%
5.00% Plan Growth	11.7%	12.3%	12.3%	11.3%	9.7%	8.0%	6.3%	4.7%	3.4%	2.3%	1.5%

CRPTF PIF Horizon Model - \$1,700M CY 2024											
(\$ in millions)	CY 23 ¹	CY 24	CY 25	CY 26	CY 27	CY 28	CY 29	CY 30	CY 31	CY 32	CY 33
Commitments											
Fund Commitments	\$21,212.3	\$1,700.0	\$1,600.0	\$1,600.0	\$1,600.0	\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0	\$1,500.0
Direct Co-Investment Program*	-	-	-	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0	\$200.0
Period Cash Flow											
Paid-in Capital	\$1,050.1	\$1,531.8	\$1,678.3	\$1,641.2	\$1,778.3	\$1,786.0	\$1,770.1	\$1,746.8	\$1,726.2	\$1,713.5	\$1,705.2
Distributions	\$859.9	\$1,483.9	\$1,662.2	\$1,942.6	\$2,142.7	\$2,299.9	\$2,426.2	\$2,617.0	\$2,798.7	\$2,920.9	\$3,021.8
Net Cash Flow	(\$190.1)	(\$47.9)	(\$16.1)	\$301.4	\$364.4	\$513.8	\$656.1	\$870.1	\$1,072.5	\$1,207.5	\$1,316.6
Cumulative Cash Flow											
Paid-in Capital	\$12,280.9	\$13,812.7	\$15,491.0	\$17,132.2	\$18,910.5	\$20,696.5	\$22,466.7	\$24,213.5	\$25,939.7	\$27,653.2	\$29,358.3
Distributions	\$13,477.9	\$14,961.8	\$16,624.0	\$18,566.6	\$20,709.3	\$23,009.2	\$25,435.4	\$28,052.4	\$30,851.1	\$33,772.0	\$36,793.8
Net Cash Flow	\$1,197.0	\$1,149.1	\$1,133.0	\$1,434.4	\$1,798.8	\$2,312.6	\$2,968.7	\$3,838.9	\$4,911.4	\$6,118.9	\$7,435.5
PIF Portfolio											
PIF Market Value	\$5,819.7	\$6,589.0	\$7,422.8	\$8,046.1	\$8,700.1	\$9,290.2	\$9,820.8	\$10,221.1	\$10,483.7	\$10,656.2	\$10,750.9
Unfunded	\$3,792.6	\$4,360.8	\$4,451.3	\$4,700.2	\$4,670.3	\$4,550.1	\$4,479.7	\$4,427.5	\$4,401.2	\$4,377.3	\$4,369.3
3.00% Plan Growth	11.7%	12.9%	14.1%	14.8%	15.6%	16.2%	16.6%	16.8%	16.7%	16.5%	16.1%
4.00% Plan Growth	11.7%	12.8%	13.8%	14.4%	15.0%	15.4%	15.6%	15.6%	15.4%	15.1%	14.6%
5.00% Plan Growth	11.7%	12.6%	13.5%	14.0%	14.4%	14.6%	14.7%	14.6%	14.3%	13.8%	13.3%

¹ Commitment amount in CY 23 column represents total since inception through year-end 2023 (expected). CY 23 cash flows represent 1H 2023 real cash flows plus 2H 2023 projected cash flows. CY 23 projected total CRPTF plan value (denominator) applies two-twelfths of the annual growth rates (3%, 4%, 5%) to the 10/31/2023 value as provided by CRPTF to achieve projected 12/31/2023 values

¹ HarbourVest commitments included in the CY 23 Fund Commitment total

*Assumes \$300M deployed in 2024 and remaining \$70M deployed in 2025 for a total of 750M since inception (HarbourVest)

Building the Portfolio

- Co-Investments and Venture Capital are expected to be accessed through existing customized CRPTF programs
 - The respective 'Pacing Target' ranges are intended to capture the expected deployment from the existing programs during CY 2024
 - The 'Pacing Target' ranges are not a recommendation for additional incremental commitments in CY 2024

Long-Term Portfolio Targets - By Structure

Strategy	Current NAV Exposure ¹	Current Total Exposure ^{1,2}	Long-Term Portfolio Target ^{2,3}	Target Commitments	Target Commitment Sizes (\$M)	Pacing Target (\$M)
Primaries	98%	95%	80-90%	8-12	\$100-\$300	\$1,600-\$1,800
Co-Investments ⁶	2%	5%	10-20%	0-1	\$0-\$300	\$0-\$300

Long-Term Portfolio Targets - By Strategy

Strategy ⁴	Current NAV Exposure ¹	Current Total Exposure ^{1,2}	Long-Term Portfolio Target ^{2,3}	Target Commitments	Target Commitment Sizes (\$M)	Pacing Target (\$M)
Buyout	64%	64%	55-75%	5-8	\$200-\$300	\$1,100-\$1,300
<i>Buyout Large/Mega</i>	27%	25%	15-25%	1-3	\$100-\$200	\$300-\$400
<i>Buyout SMID⁵</i>	36%	40%	40-50%	4-5	\$150-\$250	\$700-\$1,000
Growth Equity	5%	4%	10-20%	2-3	\$150-\$225	\$300-\$450
Venture Capital ⁶	14%	10%	5-10%	0-1	\$0-\$150	\$0-\$150
Secondaries	8%	12%	5-10%	1-2	\$75-\$200	\$150-\$200
Mezzanine	4%	4%	0-10%	0-1	\$100-\$150	\$0-\$150
Distressed/Restructuring	4%	4%	0-10%	0-1	\$100-\$150	\$0-\$150

Long-Term Portfolio Targets - By Geography

Geography	Current Exposure ⁷	Long-Term Portfolio Target ⁷	Target Commitments	Target Commitment Sizes (\$M)	Pacing Target (\$M)
North America	73%	65-75%	6-8	\$200-\$350	\$1,100-\$1,500
Western Europe	13%	15-25%	2-4	\$125-\$300	\$400-\$600
Rest of World	15%	5-10%	0-2	\$100-\$150	\$0-\$300

Footnotes located on Endnotes & Disclosures page

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¹As of 6/30/2023. Excludes Multi-Strategy and Special Situations, which represents ~1% of PIF NAV and Total Exposure as of 6/30/2023. Totals may not sum to 100% due to rounding.

²Total Exposure is equal to Remaining Net Asset Value plus Unfunded Commitment. Total exposure does not account for planned transfer of legacy ICG commitments from PIF to PCF.

³Long-Term Portfolio Target measured by Total Exposure.

⁴Co-Investment sidecars' strategies are aligned with the primary vehicle they invest alongside

⁵HarbourVest CI Vehicle is grouped into SMID Buyout

⁶Venture Capital and Co-Investment exposure to be largely accessed through a vehicle/SMA structure.

⁷Current Exposure and Long-Term Portfolio Target by Geography refer to NAV exposure at the underlying company-level (CRPTF's share of a portfolio company's remaining NAV).

Connecticut Retirement Plans and Trust Funds

Pacing Plan – Infrastructure & Natural Resources Portfolio

December 2023

Pacing Model Overview and Process

- Albourne's proprietary cash flow simulator employs a Bayesian approach, adapting to new information as it is gathered. This is in contrast with classical models (e.g. the Takahashi-Alexander model) where cash flow forecasts are calculated in advance.
- Advantages
 - Utilizes prior knowledge of a strategy's cash flow profile
 - Considers and adapts to the economic environment
 - Affords flexibility in its assumptions, which can be customized to account for distortions such as subscription line facilities

Albourne utilized a bottom's up approach, modeling each item in the portfolio based on its unique characteristics.

Base assumptions were then set for CRPTF's Total Asset growth trajectory over the next 10 years.

Once aggregated, Albourne used strategy forecasts to model future commitments for targeted strategies.

These future models were then used to build future commitment schedules for each portfolio, targeting annual and long term glidepath objectives.

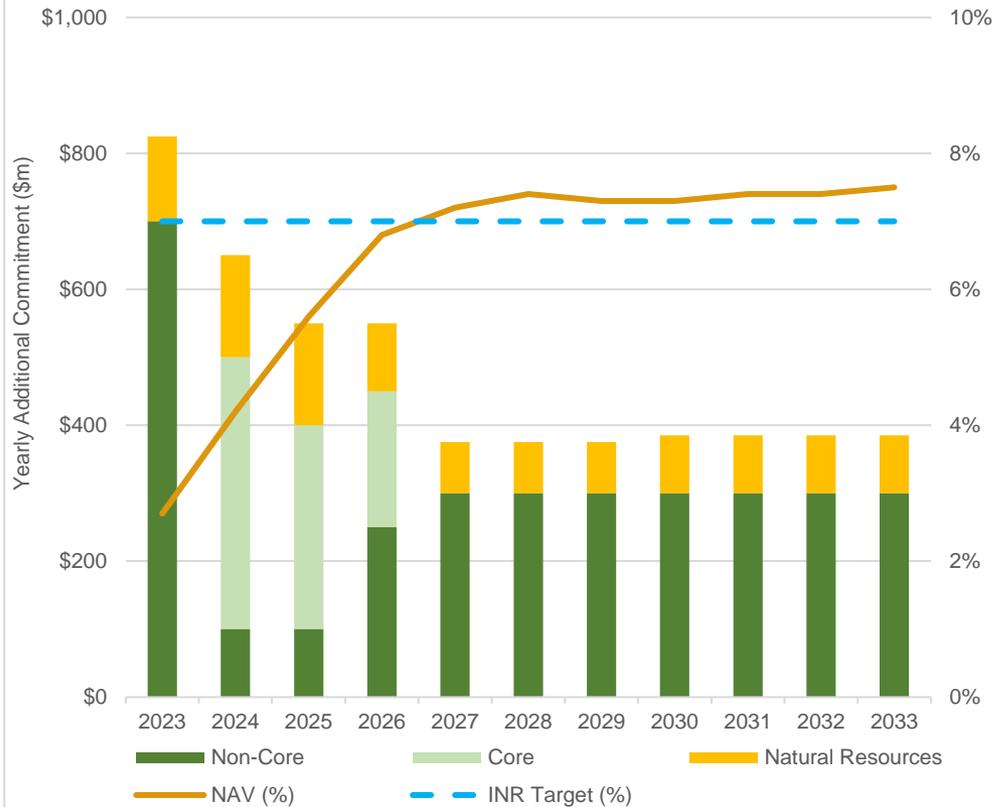
CRPTF INR Assumptions & Targets

Modelling Assumptions	
Estimated 12/31/23 AUM	\$49.583bn (3% scenario) \$49.662bn (4% scenario) \$49.742bn (5% scenario)
Growth Rate (annualized)	3%; 4%; 5%
Infrastructure allocation target as % of plan	7%
Core Sub-target	40%
Non-Core Sub-target	45%
Natural Resources Sub-target	15%
<i>Target 2027 to achieve allocation goals</i>	

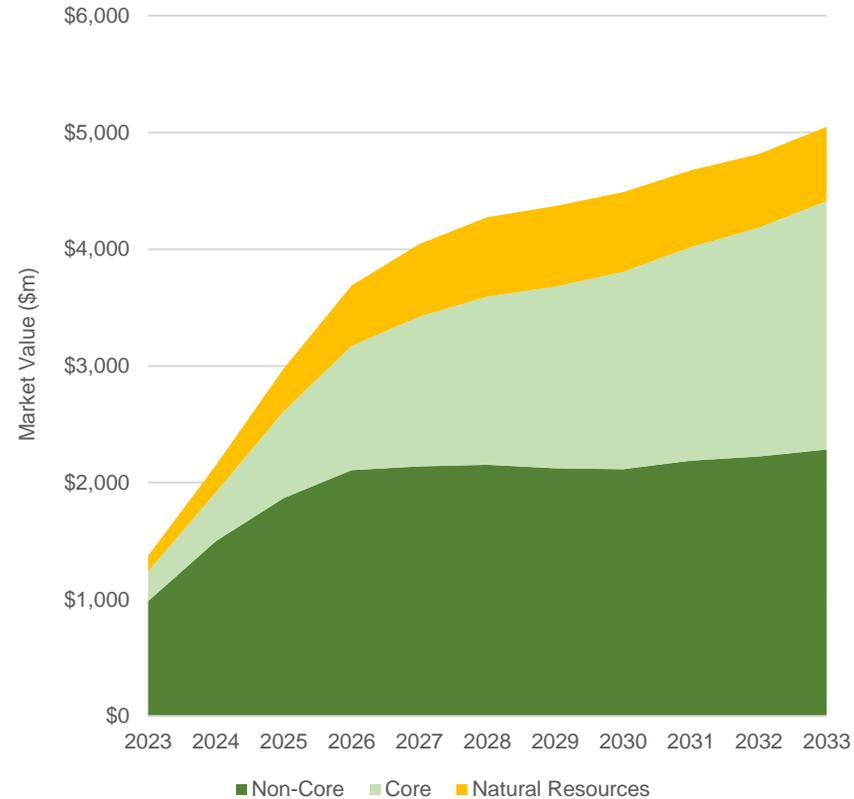
- The starting point for portfolio data for all projections is 1/1/24.
- Estimated 12/31/23 AUM based on 10/30/23 CRPTF AUM grown by assumed rate over the final two months.

3% Plan Growth Rate

INR Additional Commitment Forecast



INR Portfolio Market Value Forecast



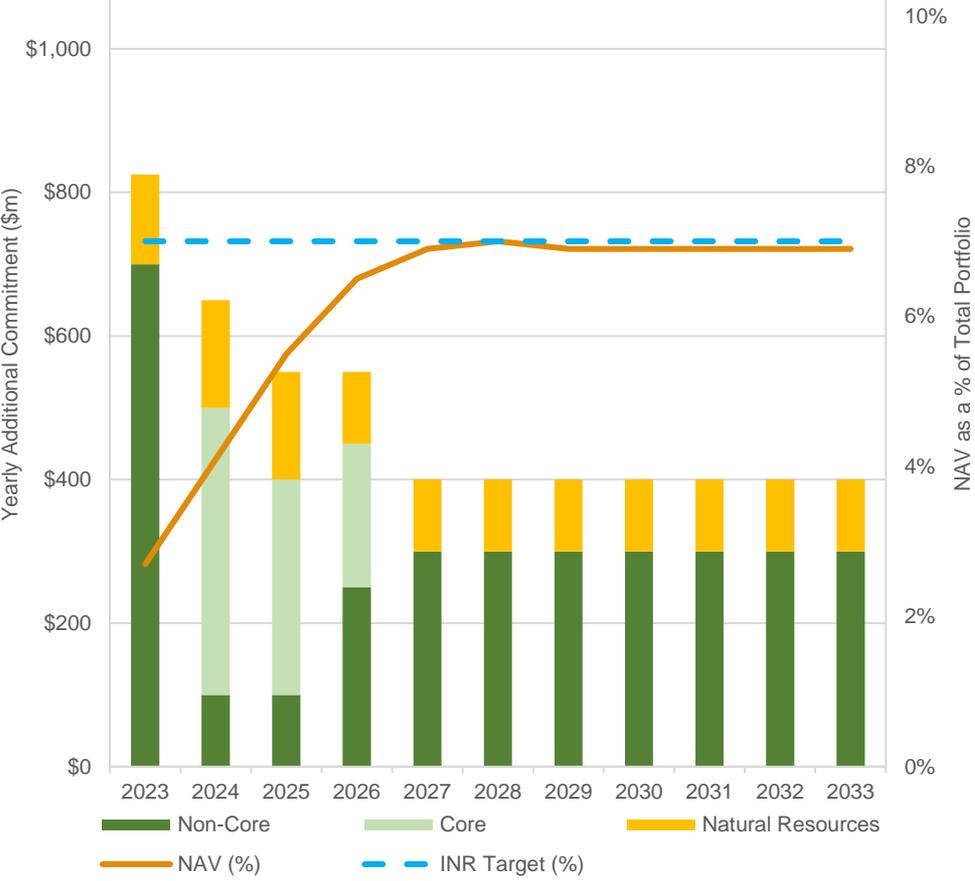
- Future commitments should increase Core Infrastructure relative to Non-Core.
- Core infrastructure calls capital much more quickly than closed-end non-Core, and does not distribute, and thus only minimal commitments will likely be needed in Core following 2026 in the forecast period to reach targets.

3% Plan Growth Rate - Data

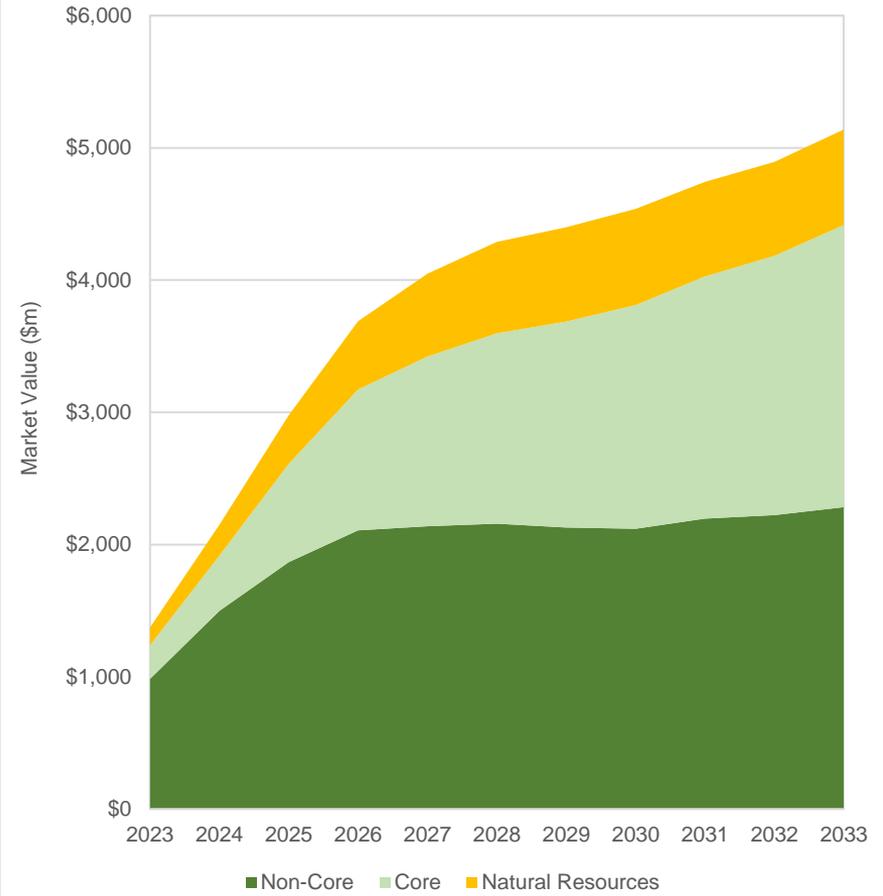
Year Ending	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
NAV as % of Total Portfolio											
INR Target (%)	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
NAV (%)	2.7%	4.2%	5.6%	6.8%	7.2%	7.4%	7.3%	7.3%	7.4%	7.4%	7.5%
Future Commitment Schedule (\$m)											
Non-Core	\$700	\$100	\$100	\$250	\$300	\$300	\$300	\$300	\$300	\$300	\$300
Core	\$0	\$400	\$300	\$200	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Natural Resources	\$125	\$150	\$150	\$100	\$80	\$80	\$80	\$90	\$90	\$90	\$90
Total Commit.	\$825	\$650	\$550	\$550	\$380	\$380	\$380	\$390	\$390	\$390	\$390
Period Cash Flow (\$m)											
Paid-in Capital	\$498	\$785	\$814	\$703	\$538	\$426	\$386	\$392	\$397	\$396	\$394
Distributions	\$83	\$177	\$239	\$330	\$582	\$611	\$712	\$676	\$641	\$685	\$601
Net Cash Flow	(\$415)	(\$608)	(\$575)	(\$373)	\$43	\$184	\$326	\$284	\$243	\$289	\$207
Unfunded	\$1,532	\$1,402	\$1,160	\$1,017	\$834	\$787	\$778	\$777	\$772	\$771	\$772
Infrastructure & Natural Resources Portfolio Market Value (\$m)											
Non-Core	\$985	\$1,497	\$1,867	\$2,106	\$2,140	\$2,154	\$2,123	\$2,115	\$2,189	\$2,225	\$2,283
Core	\$254	\$419	\$744	\$1,066	\$1,282	\$1,440	\$1,555	\$1,693	\$1,829	\$1,960	\$2,131
Natural Resources	\$133	\$232	\$366	\$516	\$623	\$680	\$690	\$682	\$659	\$631	\$636
Total MV	\$1,372	\$2,148	\$2,977	\$3,689	\$4,046	\$4,274	\$4,369	\$4,490	\$4,677	\$4,815	\$5,050
Strategy Percentage											
Non-Core	71.8%	69.7%	62.7%	57.1%	52.9%	50.4%	48.6%	47.1%	46.8%	46.2%	45.2%
Core	18.5%	19.5%	25.0%	28.9%	31.7%	33.7%	35.6%	37.7%	39.1%	40.7%	42.2%
Natural Resources	9.7%	10.8%	12.3%	14.0%	15.4%	15.9%	15.8%	15.2%	14.1%	13.1%	12.6%

4% Plan Growth Rate

INR Additional Commitment Forecast



INR Portfolio Market Value Forecast

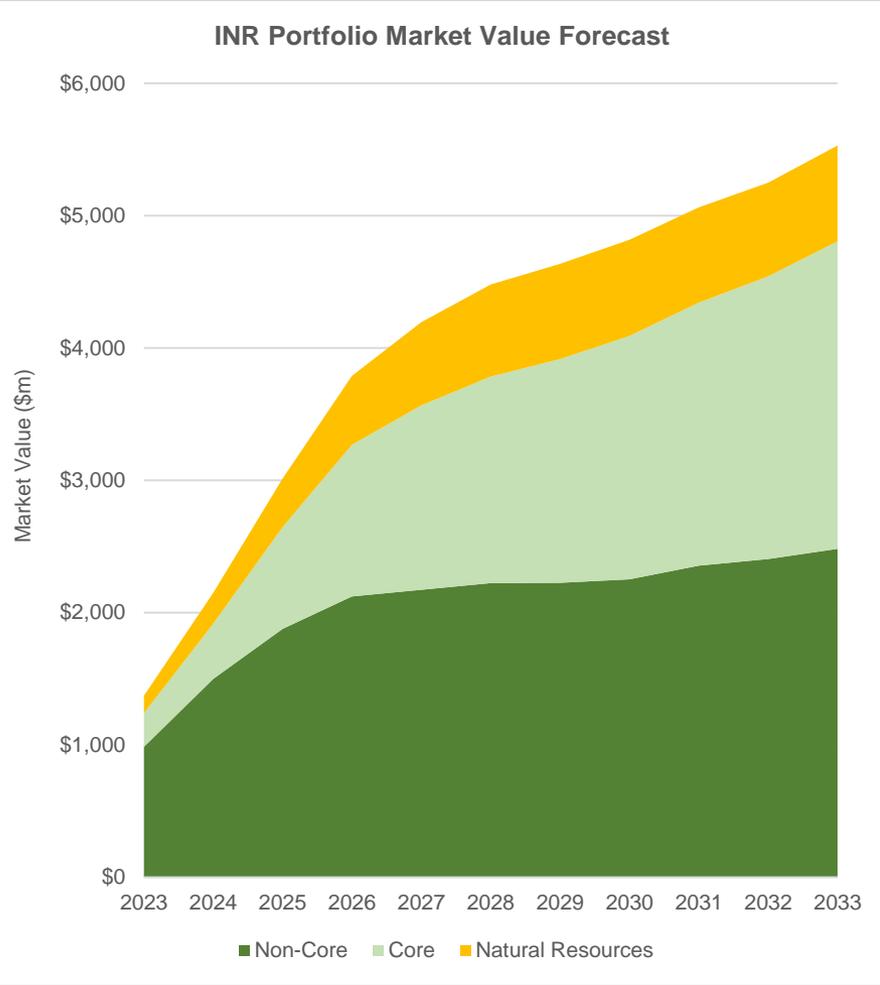
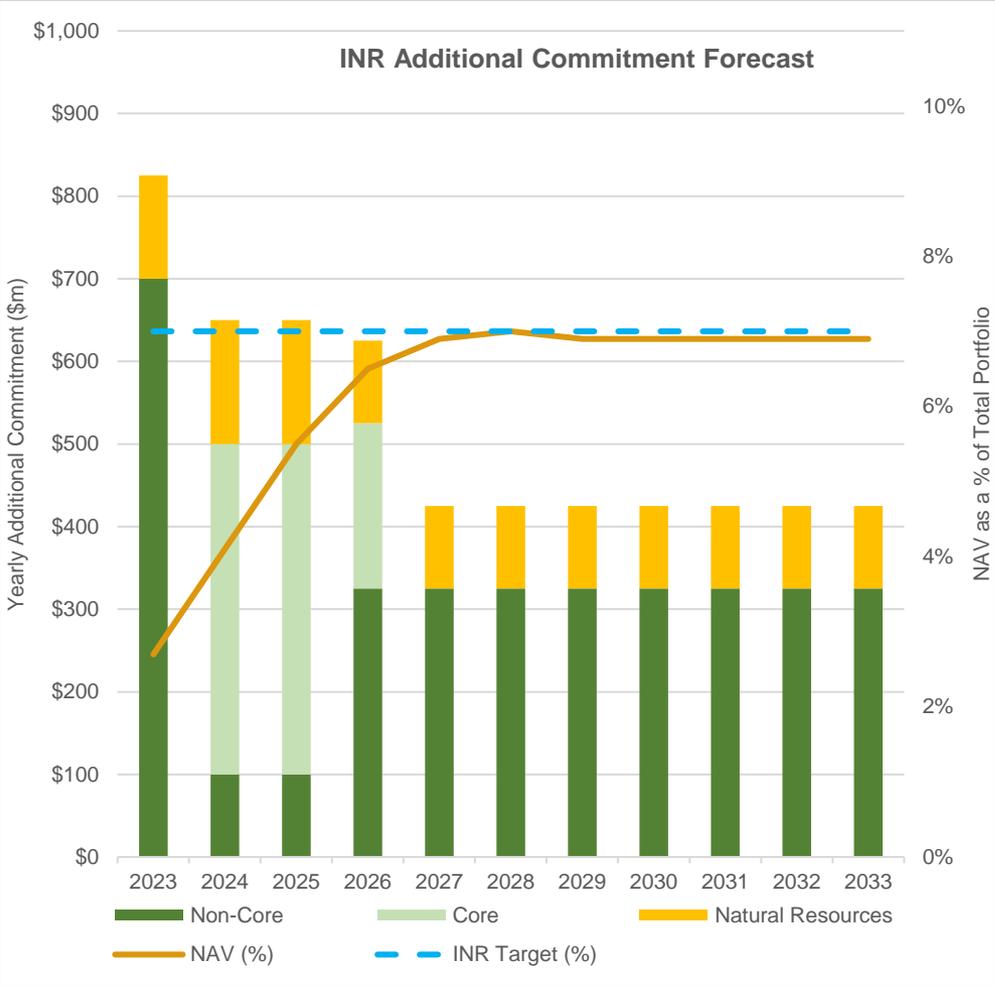


4% Plan Growth Rate – Data

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Year Ending	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
NAV as % of Total Portfolio											
INR Target (%)	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
NAV (%)	2.7%	4.1%	5.5%	6.5%	6.9%	7.0%	6.9%	6.9%	6.9%	6.9%	6.9%
Future Commitment Schedule (\$m)											
Non-Core	\$700	\$100	\$100	\$250	\$300	\$300	\$300	\$300	\$300	\$300	\$300
Core	\$0	\$400	\$300	\$200	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Natural Resources	\$125	\$150	\$150	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
Total Commit.	\$825	\$650	\$550	\$550	\$400						
Period Cash Flow (\$m)											
Paid-in Capital	\$498	\$785	\$814	\$703	\$542	\$437	\$402	\$411	\$418	\$415	\$412
Distributions	\$83	\$177	\$239	\$330	\$582	\$611	\$713	\$680	\$647	\$695	\$612
Net Cash Flow	(\$415)	(\$608)	(\$575)	(\$373)	\$40	\$174	\$312	\$269	\$230	\$280	\$201
Unfunded	\$1,532	\$1,402	\$1,160	\$1,017	\$855	\$823	\$823	\$817	\$808	\$803	\$802
Infrastructure & Natural Resources Portfolio Market Value (\$m)											
Non-Core	\$985	\$1,497	\$1,867	\$2,106	\$2,138	\$2,157	\$2,129	\$2,119	\$2,195	\$2,222	\$2,282
Core	\$254	\$419	\$744	\$1,066	\$1,284	\$1,441	\$1,557	\$1,692	\$1,830	\$1,962	\$2,133
Natural Resources	\$133	\$232	\$366	\$516	\$628	\$690	\$713	\$726	\$716	\$710	\$725
Total MV	\$1,372	\$2,148	\$2,977	\$3,689	\$4,049	\$4,288	\$4,399	\$4,538	\$4,742	\$4,894	\$5,139
Strategy Percentage											
Non-Core	71.8%	69.7%	62.7%	57.1%	52.8%	50.3%	48.4%	46.7%	46.3%	45.4%	44.4%
Core	18.5%	19.5%	25.0%	28.9%	31.7%	33.6%	35.4%	37.3%	38.6%	40.1%	41.5%
Natural Resources	9.7%	10.8%	12.3%	14.0%	15.5%	16.1%	16.2%	16.0%	15.1%	14.5%	14.1%

5% Plan Growth Rate



5% Plan Growth Rate – Data

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Year Ending	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
NAV as % of Total Portfolio											
INR Target (%)	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
NAV (%)	2.7%	4.1%	5.5%	6.5%	6.9%	7.0%	6.9%	6.9%	6.9%	6.9%	6.9%
Future Commitment Schedule (\$m)											
Non-Core	\$700	\$100	\$100	\$330	\$330	\$330	\$330	\$330	\$330	\$330	\$330
Core	\$0	\$400	\$400	\$200	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Natural Resources	\$125	\$150	\$150	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
Total Commit.	\$825	\$650	\$650	\$630	\$430						
Period Cash Flow (\$m)											
Paid-in Capital	\$498	\$785	\$814	\$703	\$542	\$437	\$402	\$411	\$418	\$415	\$412
Distributions	\$83	\$177	\$239	\$330	\$582	\$611	\$713	\$680	\$647	\$695	\$612
Net Cash Flow	(\$415)	(\$608)	(\$575)	(\$373)	\$40	\$174	\$312	\$269	\$230	\$280	\$201
Unfunded	\$1,532	\$1,402	\$1,160	\$1,017	\$855	\$823	\$823	\$817	\$808	\$803	\$802
Infrastructure & Natural Resources Portfolio Market Value (\$m)											
Non-Core	\$985	\$1,497	\$1,878	\$2,122	\$2,173	\$2,222	\$2,225	\$2,250	\$2,354	\$2,405	\$2,483
Core	\$254	\$419	\$769	\$1,148	\$1,393	\$1,563	\$1,692	\$1,841	\$1,990	\$2,137	\$2,323
Natural Resources	\$133	\$232	\$368	\$519	\$629	\$694	\$719	\$728	\$719	\$709	\$724
Total MV	\$1,372	\$2,148	\$3,014	\$3,789	\$4,195	\$4,479	\$4,636	\$4,819	\$5,063	\$5,251	\$5,530
Strategy Percentage											
Non-Core	71.8%	69.7%	62.3%	56.0%	51.8%	49.6%	48.0%	46.7%	46.5%	45.8%	44.9%
Core	18.5%	19.5%	25.5%	30.3%	33.2%	34.9%	36.5%	38.2%	39.3%	40.7%	42.0%
Natural Resources	9.7%	10.8%	12.2%	13.7%	15.0%	15.5%	15.5%	15.1%	14.2%	13.5%	13.1%

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Connecticut Retirement Plans and Trust Funds

Pacing Plan – Real Estate Portfolio

December 2023

Pacing Model Overview and Process

- Albourne's proprietary cash flow simulator employs a Bayesian approach, adapting to new information as it is gathered. This is in contrast with classical models (e.g. the Takahashi-Alexander model) where cash flow forecasts are calculated in advance.
- Advantages
 - Utilizes prior knowledge of a strategy's cash flow profile
 - Considers and adapts to the economic environment
 - Affords flexibility in its assumptions, which can be customized to account for distortions such as subscription line facilities

Albourne utilized a bottom's up approach, modeling each item in the portfolio based on its unique characteristics.

Base assumptions were then set for CRPTF's Total Asset growth trajectory over the next 10 years.

Once aggregated, Albourne used strategy forecasts to model future commitments for targeted strategies.

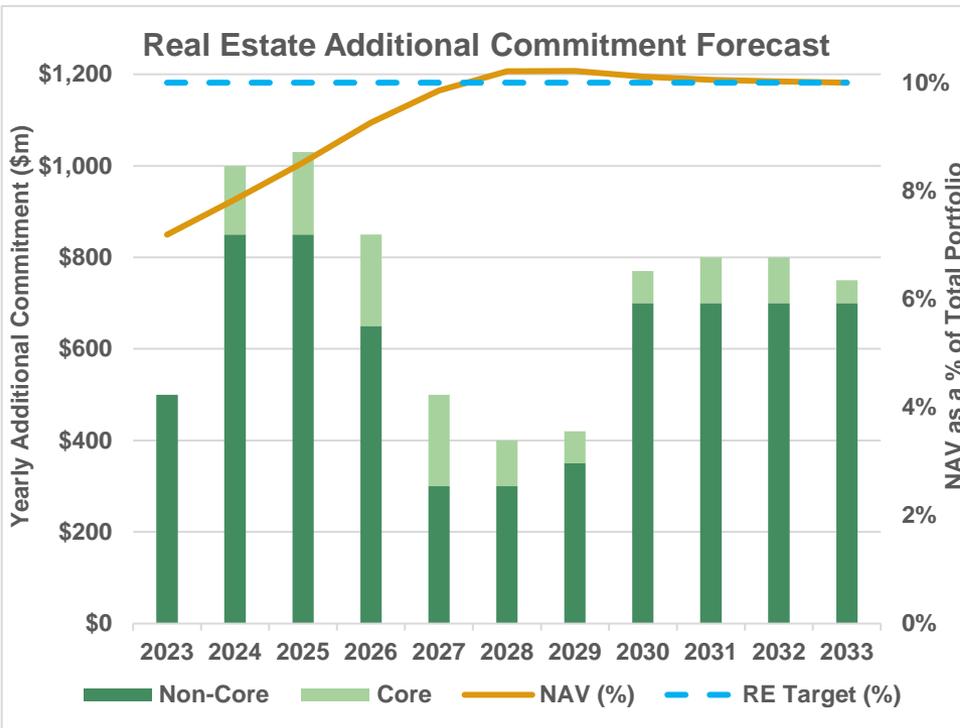
These future models were then used to build future commitment schedules for each portfolio, targeting annual and long term glidepath objectives.

CRPTF Real Estate Assumptions & Targets

Modeling Assumptions	
Estimated 12/31/23 AUM	\$49.583bn (3% scenario) \$49.662bn (4% scenario) \$49.742bn (5% scenario)
Growth Rate (annualized)	3%; 4%; 5%
Real Estate allocation target as % of Plan	10.0%
Core Sub-target	40%
Non-Core Sub-target	60%
<i>Target 2027 to achieve allocation goal</i>	

- The starting point for additional commitments is 1/1/24.
- The starting AUM for each scenario is based on the 10/30/23 CRPTF AUM grown by the assumed annual rates for the final two months of 2023.

3% Plan Growth Rate

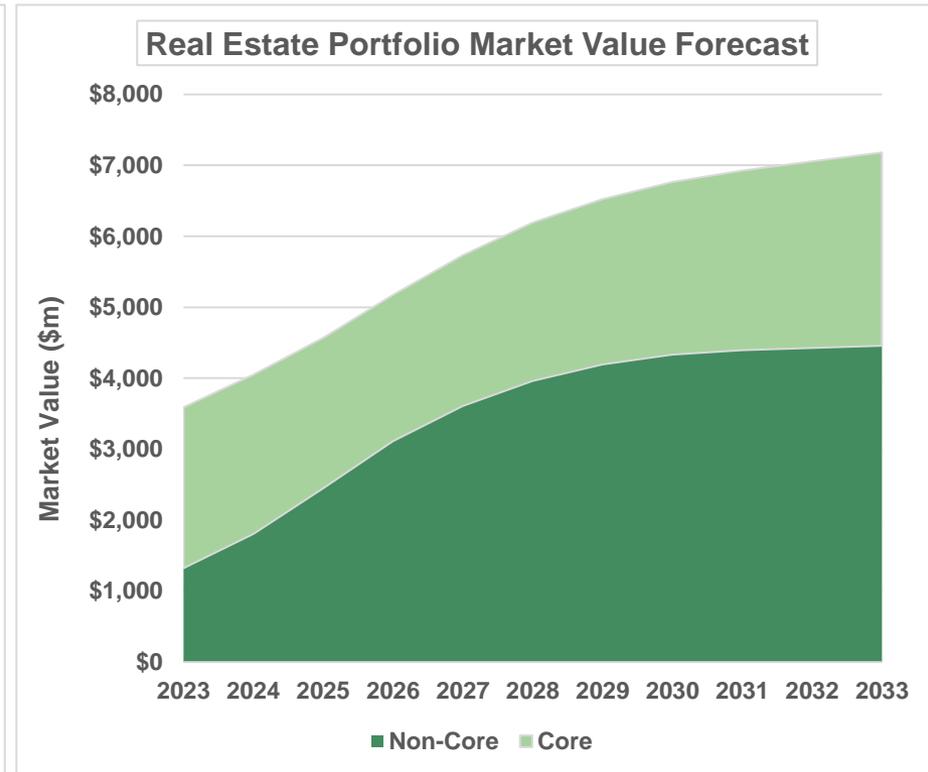
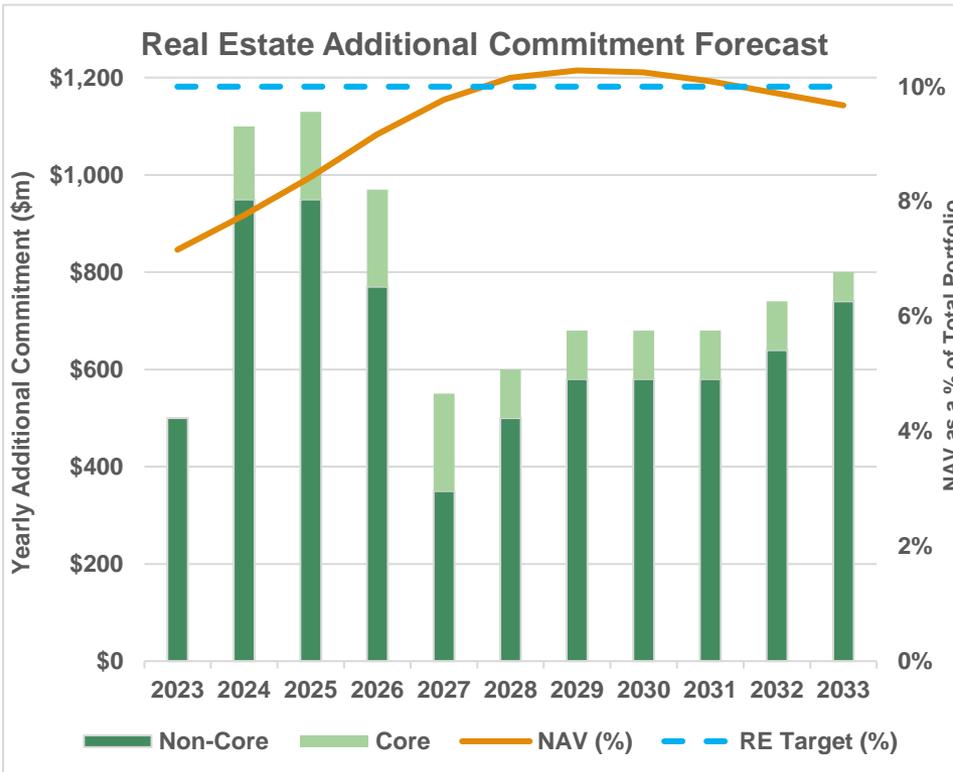


- While additional commitments over the next three years allow the plan to reach the NAV target of 10% by 2027, higher commitments are also required towards the tail-end of the forecast period to maintain this target.

3% Plan Growth Rate - Data

Year Ending	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
NAV as % of Total Portfolio											
RE Target (%)	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
NAV (%)	7.2%	7.8%	8.5%	9.3%	9.9%	10.2%	10.2%	10.1%	10.1%	10.0%	10.0%
Future Commitment Schedule (\$m)											
Non-Core	\$500	\$850	\$850	\$650	\$300	\$300	\$350	\$700	\$700	\$700	\$700
Core	\$0	\$150	\$180	\$200	\$200	\$100	\$70	\$70	\$100	\$100	\$50
Total Commit.	\$500	\$1,000	\$1,030	\$850	\$500	\$400	\$420	\$770	\$800	\$800	\$750
Period Cash Flow (\$m)											
Paid-in Capital	\$818	\$799	\$963	\$1,050	\$924	\$727	\$573	\$536	\$598	\$665	\$694
Distributions	\$549	\$618	\$784	\$823	\$786	\$730	\$797	\$847	\$876	\$933	\$972
Net Cash Flow	(\$269)	(\$182)	(\$180)	(\$227)	(\$138)	\$3	\$224	\$311	\$278	\$267	\$278
Unfunded	\$1,720	\$1,918	\$1,914	\$1,676	\$1,214	\$892	\$761	\$1,016	\$1,234	\$1,376	\$1,439
Real Estate Portfolio Market Value (\$m)											
Non-Core	\$1,323	\$1,791	\$2,392	\$2,991	\$3,415	\$3,680	\$3,791	\$3,837	\$3,893	\$3,966	\$4,064
Core	\$2,267	\$2,244	\$2,123	\$2,063	\$2,123	\$2,232	\$2,304	\$2,375	\$2,468	\$2,566	\$2,650
Total MV	\$3,591	\$4,035	\$4,515	\$5,054	\$5,538	\$5,912	\$6,096	\$6,212	\$6,361	\$6,532	\$6,714
Strategy Percentage											
Non-Core	36.9%	44.4%	53.0%	59.2%	61.7%	62.2%	62.2%	61.8%	61.2%	60.7%	60.5%
Core	63.1%	55.6%	47.0%	40.8%	38.3%	37.8%	37.8%	38.2%	38.8%	39.3%	39.5%

4% Plan Growth Rate

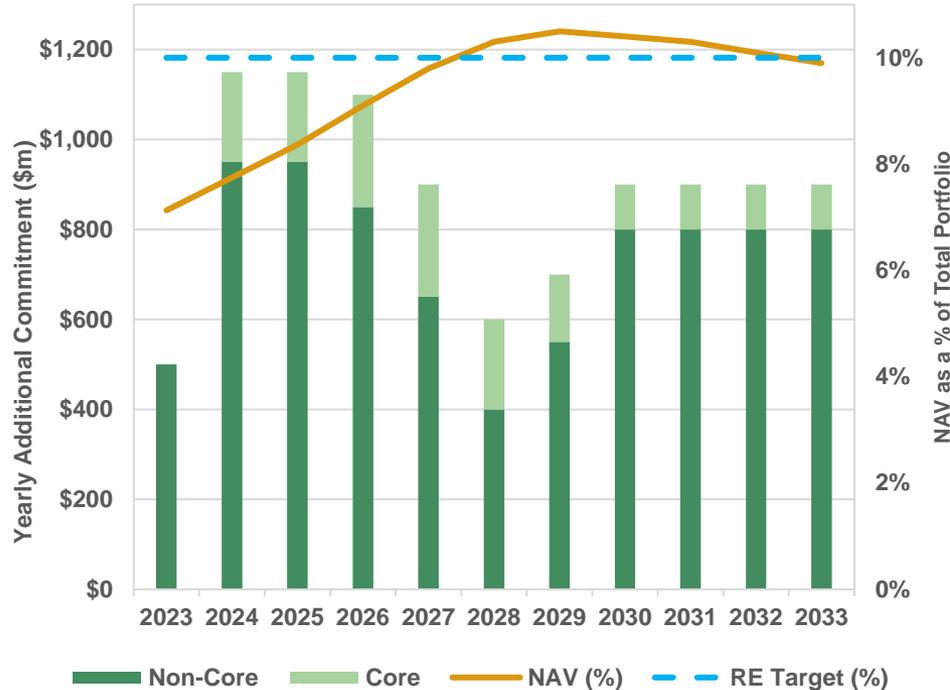


4% Plan Growth Rate – Data

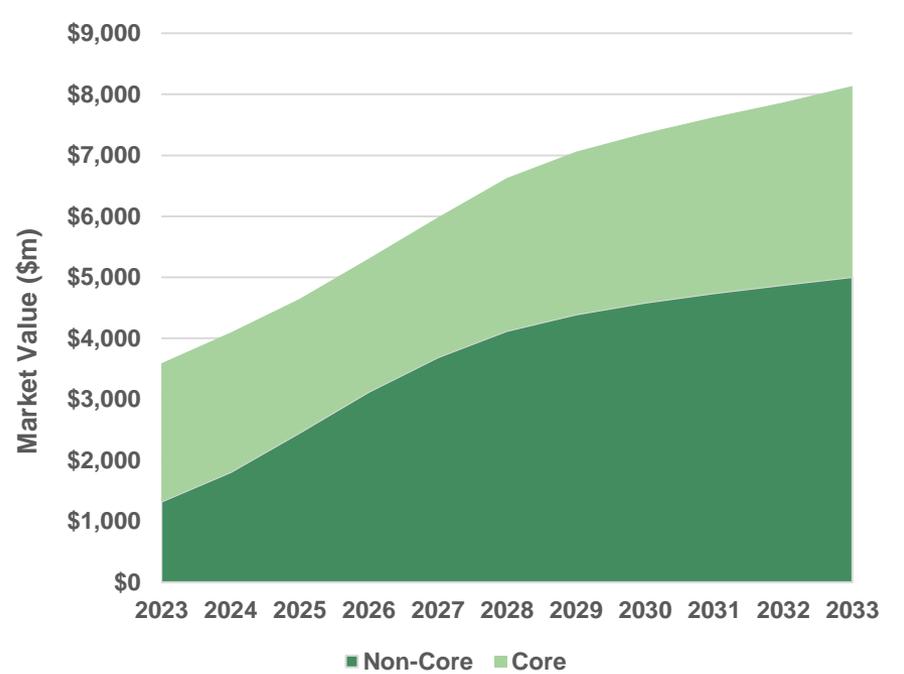
Year Ending	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
NAV as % of Total Portfolio											
RE Target (%)	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
NAV (%)	7.2%	7.8%	8.4%	9.2%	9.8%	10.2%	10.3%	10.2%	10.1%	9.9%	9.7%
Future Commitment Schedule (\$m)											
Non-Core	\$500	\$950	\$950	\$770	\$350	\$500	\$580	\$580	\$580	\$640	\$740
Core	\$0	\$150	\$180	\$200	\$200	\$100	\$100	\$100	\$100	\$100	\$60
Total Commit.	\$500	\$1,100	\$1,130	\$970	\$550	\$600	\$680	\$680	\$680	\$740	\$800
Period Cash Flow (\$m)											
Paid-in Capital	\$818	\$817	\$978	\$1,058	\$964	\$827	\$741	\$684	\$650	\$652	\$688
Distributions	\$549	\$618	\$784	\$830	\$804	\$762	\$843	\$912	\$963	\$1,028	\$1,064
Net Cash Flow	(\$269)	(\$200)	(\$194)	(\$228)	(\$160)	(\$65)	\$102	\$228	\$314	\$377	\$376
Unfunded	\$1,720	\$2,004	\$2,059	\$1,876	\$1,385	\$1,162	\$1,128	\$1,145	\$1,186	\$1,259	\$1,380
Real Estate Portfolio Market Value (\$m)											
Non-Core	\$1,323	\$1,806	\$2,449	\$3,112	\$3,610	\$3,962	\$4,193	\$4,332	\$4,397	\$4,425	\$4,457
Core	\$2,267	\$2,244	\$2,123	\$2,063	\$2,123	\$2,232	\$2,331	\$2,432	\$2,531	\$2,629	\$2,724
Total MV	\$3,591	\$4,050	\$4,571	\$5,175	\$5,733	\$6,194	\$6,524	\$6,764	\$6,928	\$7,054	\$7,180
Strategy Percentage											
Non-Core	36.9%	44.6%	53.6%	60.1%	63.0%	64.0%	64.3%	64.0%	63.5%	62.7%	62.1%
Core	63.1%	55.4%	46.4%	39.9%	37.0%	36.0%	35.7%	36.0%	36.5%	37.3%	37.9%

5% Plan Growth Rate

Real Estate Additional Commitment Forecast



Real Estate Portfolio Market Value Forecast



5% Plan Growth Rate – Data

Year Ending	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
NAV as % of Total Portfolio											
RE Target (%)	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
NAV (%)	7.1%	7.7%	8.4%	9.1%	9.8%	10.3%	10.5%	10.4%	10.3%	10.1%	9.9%
Future Commitment Schedule (\$m)											
Non-Core	\$500	\$950	\$950	\$850	\$650	\$400	\$550	\$800	\$800	\$800	\$800
Core	\$0	\$200	\$200	\$250	\$250	\$200	\$150	\$100	\$100	\$100	\$100
Total Commit.	\$500	\$1,150	\$1,150	\$1,100	\$900	\$600	\$700	\$900	\$900	\$900	\$900
Period Cash Flow (\$m)											
Paid-in Capital	\$818	\$858	\$1,031	\$1,174	\$1,116	\$1,004	\$846	\$762	\$770	\$803	\$856
Distributions	\$549	\$619	\$787	\$835	\$812	\$780	\$884	\$966	\$1,023	\$1,097	\$1,151
Net Cash Flow	(\$269)	(\$239)	(\$244)	(\$339)	(\$304)	(\$223)	\$38	\$204	\$252	\$294	\$295
Unfunded	\$1,720	\$2,010	\$2,062	\$1,951	\$1,697	\$1,298	\$1,176	\$1,338	\$1,489	\$1,602	\$1,656
Real Estate Portfolio Market Value (\$m)											
Non-Core	\$1,323	\$1,806	\$2,449	\$3,124	\$3,687	\$4,122	\$4,393	\$4,581	\$4,740	\$4,874	\$5,004
Core	\$2,267	\$2,288	\$2,196	\$2,185	\$2,298	\$2,506	\$2,667	\$2,782	\$2,888	\$2,994	\$3,132
Total MV	\$3,591	\$4,094	\$4,645	\$5,309	\$5,985	\$6,628	\$7,060	\$7,363	\$7,628	\$7,868	\$8,136
Strategy Percentage											
Non-Core	36.9%	44.1%	52.7%	58.8%	61.6%	62.2%	62.2%	62.2%	62.1%	61.9%	61.5%
Core	63.1%	55.9%	47.3%	41.2%	38.4%	37.8%	37.8%	37.8%	37.9%	38.1%	38.5%

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